IMPERIAL
DEPARTMENT OF AGRICULTURE
FOR THE WEST INDIES.

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26 NOV. 192

REPORT

ON THE

AGRICULTURAL DEPARTMENT, ST. VINCENT,

FOR THE YEAR

1925.

TRINIDAD.
ISSUED BY THE IMPERIAL COMMISSIONER OF AGRICULTURE
FOR THE WEST INDIES.

1926.

[Price Sixpence.]

REPORTS

ON THE

BOTANIC STATION, ECONOMIC PLOTS, AND AGRICULTURAL EDUCATION, ST. VINCENT.

Annual Reports on certain Economic Experiments conducted in connexion with the Botanic Station, 1900–2.

Annual Reports on the Botanic Station for the years 1901 and 1902.

Annual Reports on the Botanic Station, Economic Experiments, and Agricultural Education for the years 1902–3 to 1918–25.

IMPERIAL
DEPARTMENT OF AGRICULTURE
FOR THE WEST INDIES.

REPORT

ON THE

AGRICULTURAL DEPARTMENT,

ST. VINCENT,

FOR THE YEAR

925.

AGRICULTURAL DEPARTMENT
ST. VINCENT.
With the Agricultural Superintendent's compliments.

RICULTURE

PRINTED BY THE

LETTER OF TRANSMITTAL.

1328.

TRINIDAD, 25th August, 1926.

SIR,

I have the honour to forward the Report on the working of the Agricul- al Department, St. Vincent, for the year 1925 which has been prepared by Mr. Jackson. The Report on the Agricultural Credit Societies and the Government cton Factory are also submitted.

2. The Report deals with the work of the Department under the usual subject dings in connection with the major and minor crops, introduction and dis- ution of plants and control of pests and diseases.

3. It also includes a report on the working of the Government Cotton Ginnery the year 1925-26 which shows a considerable advance on the working of the vious year.

I have the honour to be,

Sir,

Your most obedient servant,

H. M. LEAKE,
Imperial Commissioner of Agriculture
for the West Indies.

Honour
The Administrator,
St. Vincent.

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Provided by the Empire Cotton Growing Corporation.

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REPORT ON THE AGRICULTURAL DEPARTMENT, ST. VINCENT.

For the year ended December 31, 1925.

Work in the Botanic Gardens, and Observations on Plants.

The routine work in the Botanic Garden was well maintained during the r and its general appearance was satisfactory. The rainfall recorded was 5 inches. This is the lowest, with the exception of that of 1923, for at t 32 years, but in spite of this fact vegetation did not suffer to any marked nt. Some improvements were carried out, and it may not be out of place if ort account of these are given.

The work of constructing concrete drains was continued and new ones were le on each side of the road leading from the Doric Temple to the Nurseries, on one side of the road immediately above the Bridge. On each of these ks an avenue of palms and other plants had been planted many years ago. m time to time specimens died which eventually caused the whole to have a dedly ragged appearance. Preparations to replace these were made some time and for this purpose plants were grown in tubs until they were sufficiently to make a good show. These were planted out during the year, and they e to that part of the Garden a neat finished appearance. It might be said that veen each palm a group of Cannas were planted and it is hoped that these will ntually give a touch of colour to the whole.

Some years ago a large specimen of Silk Cotton (*Eriodendron anfractusum*, .) died, and the huge trunk was decidedly unsightly ; this was removed ng the period under report. It might be stated that innumerable specimens, arying stages of growth, of the Palm Weevil, (*Rhyncophorus palmarum*, *L*). e found. It would appear as though the soft fibrous nature of the wood of tree powerfully attracts these insects and this may be of practical value in such might be used as traps.

Like most old gardens, those of St. Vincent, have in them a considerable nber of trees that have outgrown the positions in which they were originally nted. A number of these were, during the year, heavily pruned and others oved ; this work, however, will take a considerable time before it is completed.

The roads in the Gardens were remetalled whenever necessary, and the Agri- ural Superintendent's Quarters, the Summer House, and all benches were ired and painted.

Cocos nucifera, L.

In July, 1921, eighteen coco-nuts were received from the Federated Malay tes, through the Imperial Commissioner of Agriculture. These consisted of ee varieties, *i.e.*, Yellow, Red and Green. They germinated and were planted in October, 1922. At the present time they are about eight feet in height. e plant flowered during the year and at the time of writing is bearing imma- e nuts. The flower spike is about 18 inches from the ground level. This nt will undoubtedly be of value on account of its early bearing properties, for as formed fruit in about half the time that the ordinary West Indian varieties e. Whether the nearness of the fruit to the ground is an advantage or not is atable, but it can be said that a nut that is easily obtainable will prove more pting to a thief than one that is growing on a high, or moderately high tree. dwarf tree such as this would be ideal for palm toddy production, but this is dom or never made in the West Indies. It is realised that some coco-nut es that form fruit near the ground bear nuts that are of little or no economic ue. The nuts from which the varieties under discussion were derived were of derate size and apparently normal in all respects.

CYRTOSTACHYS LAKKA, BECC.

This somewhat rare palm, commonly called the Sealing Wax Palm, flow for the first time on record during the period under report. This plant is cidedly handsome, the leaf sheaths and the back of the midribs are red and colouration makes the palm in question quite distinct.

Plant Importations.

VITIS VINIFERA, L.

Three varieties of the above were imported from the Union of South Af They were Red Hanepoot, White Hanepoot and Red Muscadel. These varie have the reputation of possessing an excellent flavour and were imported f local gentleman. There has been established two well known varieties of grap this island, *i.e.*, Black Hamburg and Muscat of Alexandria, the latter poss possessing the finest flavour of any grape under cultivation.

FICUS CARICA, L.

An unnamed variety of this was imported during the year from Anti Previous to this there were no fig trees in the island, this is rather peculiar, in some other West Indian Islands this plant grows well and there does not s to be any reason why it should not thrive here, in spite of the fact that it native of the Mediterranean region.

DENDROCALAMAS SIKKIMENSIS, GAMBLE.

The seeds of this plant were received from the Agricultural Departm Trinidad. It is unknown to the writer, but one species of this genus, D. stric Nees, is growing in the St. Vincent gardens.

Work in the Nurseries and Distribution of Plants.

The following is a list of plants, seeds, etc., distributed from the Nurse attached to the Botanic and Experiment Stations during the period under report

ECONOMIC AND DECORATIVE PLANTS.

Coco-nut	...	...	...	1,160
Miscellaneous decorative		...	...	111
Mango (grafted)		..	...	69
Miscellaneous economic		...	...	44
Mangosteen	...	...	..	31
Pecan	...	...	...	26
				1,441

CUTTINGS.

Cane Varieties	...	...	...	45,100
Sweet potato	...	...	...	2,000
				47,100

SEEDS.

Yam	...	...	...	94 lb.
Cotton	...	...	...	87 ,,
Bengal Beans	...	...	...	100 ,,
				281 ,,

The number of coco-nut plants distributed during 1925 falls short of for the previous year. This, however, does not indicate that decreased inte is being taken in this crop : there are several thousand plants now in the nurse that are ready for planting out. For several reasons these were not distribu

uring the year under report. There was a considerable number of grafted mango lants sold. The majority of these were of the variety "Julie". It is felt that hould mangoes ever be placed on the Canadian or New York markets this variety ould immediately become popular on account of its delicious flavour. Again, or such markets a standard article is required and on this account one variety hould be chosen and propagated. It might be said that during the year fruit of he grafted mango tree have been sent to England and Canada; these arrived in ood condition.

From the list given above it will be seen that interest in sugar cane varieties s being well maintained. It may also be said that this is the first time on record hat mangosteen in any appreciable numbers have been sent out, and as far as the vriter is aware it is the first time that pecan plants have been raised and dis-ributed. A further lot of sugar-cane varieties were raised during the year. It is ot proposed to say anything about these at the present juncture as the prelimin-ary selections have not been made. Of those mentioned in last year's Report the most promising appear to be V. 1800, V. 1850, V. 870 and V. 1955. These will e tested against other varieties in the near future.

Sweet Potatoes, Cassava, etc.

Over three hundred new varieties of sweet potatoes were raised during the year. These will, in the future, be tested for yield and for their culinary properties. Efforts were made to raise new cassava and pine apple varieties but these were unsuccessful.

Inspection and Fumigation of Imported Plants and Seeds.

The following is a list of plants, etc, which were inspected and fumigated under the Importation of Plant Diseases Protection Ordinance, 1906 :—

Pine apple plants ...	...	1,000	
Ornamental plants, etc.	...	20	parcels.
Miscellaneous seeds ...	...	100	lb.
,, ,, ...	...	15	packets.

Manurial Experiments at the Experiment Stations.

Sea Island Cotton.

These experiments were first laid out in 1921 and since then have been conducted continuously on the same piece of land. The plots are situated on Montrose Estate, the property of O. Hazell, Esq., K.C., and the thanks of this Department are due to this gentleman, and to his son, J. H. Hazell, Esq., for their co-operation in the work now commented on.

The plots on which the cotton is grown are rectangular in shape, each being $\frac{1}{10}$ acre in area. There were five series and each series was repeated four times, there were thus twenty in all.

The treatment received by the plots was as follows :—

Plots	1	... Control ; no manure.
,,	2	... Pen manure at the rate of ten tons per acre.
,,	3	... Green dressing.
,,	4	... ,, ,, and potash calculated as K_2O at rate of 50 lb. per acre.
,,	5	... Green dressing and high grade Nitrapo at rate of 2 cwt. per acre.

Pigeon peas were sown thickly in rows on the green dressing plots on March 6th and were buried eight weeks afterwards. The growth made was perhaps not so good as that of the previous year. The green material was weighed before it was buried and it weighed at the rate of 10,080 lb. per acre. From figures obtained in previous years it may be taken that approximately two-thirds of this were composed of moisture.

The manures were applied on June 22nd, and the cotton seed was sown five days afterwards. The cotton seed used for these experiments was the strain V. 135. Harvesting of plots commenced on November 4th, and the last picking took place on January 13th.

The results are put forward in the following table and are calculated to pounds of seed cotton per acre.

Plot.	Treatment.	Yield seed cotton lb. per acre.	Mean yield per acre.	Increase on no manure-lb. per acre.	Percentage increase.
1 a	No manure	1,008			
1 b	„	812			
1 c	„	805			
1 d	„	557	795		
2 a	Pen manure, 10 tons per acre	1,928			
2 b	„	1,677			
2 c	„	1,647			
2 d	„	1,377	1,657	862	108·4
3 a	Green dressing	1,472			
3 b	„	1,245			
3 c	„	1,107			
3 d	„	1,032	1,214	419	51·1
4 a	Green dressing + Sulphate of Potash 50 lb. K_2O per acre	1,435			
4 b	„	1,460			
4 c	„	1,240			
4 d	„	1,167	1,325	530	66·6
5 a	Green dressing + 2 cwt. high grade Nitrapo per acre	1,490			
5 b	„	1,412			
5 c	„	1,360			
5 d	„	1,240	1,376	581	74·2

Nitrapo is a trade term for a manure containing 15 to 17% of nitrogen calculated as ammonia, and 15 to 17% soluble potash.

These experiments have been carried on without a break for the past four years, the same land used since their inception and the same treatment accorded the plots ; the results obtained for the four seasons are given in the following table :—

Plots.	Mean yield for calculated lb. seed cotton per acre.				Percentage increase over that obtained from plots 1.				Average percentage increase for four years over that obtained from plots 1.
	1922.	1923.	1924.	1925.	1922.	1923.	1924.	1925.	
1	944	1,138	878	795	—	—	—	—	—
2	1,150	1,331	1,129	1,657	22	17	28	108·4	44
3	1,672	1,194	1,093	1,214	77	5	24	51·4	39
4	1,736	1,151	1,264	1,325	84	1	44	66·6	49
5	1,782	1,289	1,035	1,376	89	13	17	74·2	48

The most striking feature in the above is the very large increases accruing from the series that received pen manure in 1925. The figures in the right hand column of the table indicate what has been pointed out on many occasions, and that is the necessity for conveying organic matter to the soils of St. Vincent if their fertility is to be maintained.

Sugar Cane.

This is the fourth year that experiments have been carried out on Diamond ıte, the property of the Hon'ble A. Punnett, and the thanks of the Department due to this gentleman for the hearty manner in which he co-operated with it his and other occasions. The plots on which these experiments were con-ted were $\frac{1}{40}$ acre in area, and rectangular in shape. The canes were planted November and December 1924, manures were applied on July 19th, 1925 and plots were reaped in April, 1926. The returns obtained from the plots were r, root disease and rind disease being common. Results are given below; plots being in triplicate :—

Plot.	Treatment.	Calculated yield per acre. Tons of cane.	Calculated mean yield. Tons of cane per acre.	Increase on no manure.	Percentage increase.
1 a	No manure	5·55			
1 b	,,	7·25			
1 c	,,	6·93	6·58		
2 a	Nitrogen, 30 lb. as sulphate of ammonia	10·25			
2 b	,,	10·57			
2 c	,,	8·21	9·68	3·10	47·1
3 a	Phosphoric acid, 40 lb. as basic slag	6·29			
3 b	,,	8·0			
3 c	,,	10·79	8·36	1·78	27·0
4 a	Potash, 30 lb. as sulphate of potash	6·50			
4 b	,,	6·29			
4 c	,,	9·18	7·32	·74	11·2
5 a	Potash, 30 lb. as sulphate of potash, phosphoric acid, 40 lb. per acre as basic slag.	8·75			
5 b		7·11			
5 c	,,	7·54	7·80	1·22	18·5
a	Nitrogen, phosphoric acid, and potash as above	8·25			
b	,,	9·37			
c	,,	10·03	9·22	2·64	40·1
a	Cotton seed meal, 1,000 lb.	9·79			
b	,,	9·00			
c	,,	6·25	8·35	1·77	26·9
a	Cotton seed meal, 500 lb., Nitrapo, 35 lb. as sulphate of ammonia, potash, 35 lb. as sulphate of potash	11·11			
b	,,	9·64			
c	,,	8·29	9·68	3·10	47·1
a	Pen manure, 20 tons per acre	8·43			
b	,,	12·36			
c	,,	7·61	9·47	2·89	43·9

The following are the results obtained from these experiments for the four years :—

Series.	Calculated mean yield per acre. Tons.				Percentage increase or decrease over yield obtained from Plot 1.				Average percent increase over yie obtained from manure plots
	1922	1923	1924	1925	1922	1923	1924	1925	
1	9·20	16·37	12·46	6·58	—	—	—	—	
2	11·78	18·59	10·49	9·68	28	14	16	47	18
*3	9·52		12·62	8·36	3		1	27	10
4	10·77	20·37	11·74	7·32	17	16	6	11	9
*5	13·45		10·86	7·80	46		13	18	16
*6	14·78		12·59	9·22	61		1	40	34
7	13·56	20·81	19·69	8·36	47	24	1	27	24
8	14·02	24·72	12·57	9·68	52	51	1	47	38
9	14·37	21·47	12·07	9·43	56	31	3	44	32

* Series not complete. Some manures were not available.

It will be seen that no appreciable returns were obtained from series one four. From series six which received a complete manure, and from series seve eight and nine all of which received organics either in the form of cotton se meal or pen manure, and in one instance with the addition of artificials, bett results were obtained.

Maize (*Indian Corn*).

Manurial experiments have been conducted with maize for the past fo years. The plots were rectangular in shape, each being 240 square feet in area the treatment of the land as regards manure has not varied. There are sev series, each laid out in duplicate.

During 1925 the manures were applied on August 10th, seeds were sown August 15th, and the plots were reaped on November 30th. In the followi table the treatment the plots received, the calculated yield per acre of corn on co etc., are given :—

Plots.	Treatment.	Yield per acre of corn on cob.	Mean.	Increase or decrease on no manure.	Percentage crease or de crease.
1 a	No manure	2,450			
1 b	„ „	3,321	2,885	—	—
2 a	Nitrogen, 30 lb. per acre as sulphate of ammonia	3,448			
2 b	„ „	4,247	3,847	+962	+33·3
3 a	Potash, 30 lb. per acre as sulphate of potash	2,904			
3 b	„ „	2,087	2,495	−390	−13·5
4 a	Nitrogen and potash as above	3,630			
4 b	„ „	3,267	3,448	+563	+19·1
5 a	Cotton seed meal, 1,000 lb. per acre	2,722			
5 b	„ „	4,247	3,484	+599	+20·8
6 a	Potash as above and cotton seed meal as above	3,539			
6 b	„ „	3,448	3,493	+608	+21·1
7 a	Pen manure rate of 20 tons per acre	4,356			
7 b	„ „	3,993	4,174	+1,289	+44·7

The following are the results obtained for the past four years :—

Series.	Calculated yield lb. cob corn per acre.				Percentage increase or decrease over that obtained from plots 1.				Average percentage increase for four years over that obtained from no manure plots.
	1922.	1923.	1924.	1925.	1922.	1923.	1924.	1925.	
1	2,903	2,654	2,301	2,885	—	—	—	—	—
2	3,056	3,686	2,225	3,847	+ 5	+28	− 3	+33	15
3	2,633	3,464	3,616	2,495	− 9	+23	+57	−13	15
4	3,101	3,908	3,564	3,448	+ 7	+32	+11	+19	17
5	3,085	3,539	2,202	3,484	+ 6	+25	− 4	+21	12
6	2,602	3,244	2,433	3,493	−10	+18	+ 5	+21	8
7	2,738	4,276	2,827	4,174	− 6	+37	+23	+45	25

Only one plot of each series was reaped in 1923.

The above results appear to indicate how necessary the application of pen manure is to the general well-being of St. Vincent soils.

Ground Nuts.

Manurial experiments were conducted with this crop. The plots were rectangular in shape and 248 square feet each in area. There were seven series and each was repeated three times. Manures were applied on August 18th. Seeds were sown two days afterwards and the nuts were harvested between November 16th and 21st.

In the following table the results obtained during the past year are given :—

Plots.	Treatment.	Calculated yield per acre undried nuts, lb.	Calculated mean yield per acre undried nuts, lb.	Increase on no manure.	Percentage increase.
1 a	No manure	2,032			
1 b	„ „	1,815			
1 c	„ „	1,678	1,842		
2 a	Nitrogen, 30 lb., as sulphate of ammonia	1,906			
2 b	„	1,633			
2 c	„	2,768	2,102	260	14
3 a	Potash, 30 lb. as sulphate of potash	2,223			
3 b	„	2,087			
3 c	„	2,813	2,374	532	29
4 a	Potash and nitrogen as above	2,133			
4 b	„	1,951			
4 c	„	2,541	2,208	466	25
5 a	Cotton seed meal, 1,000 lbs. per acre	1,906			
5 b	„	2,496			
5 c	„	2,223	2,208	466	25
6 a	Cotton seed meal as above, Potash as above	1,815			
6 b	„	2,677			
6 c	„	1,996	2,163	321	17
7 a	Pen manure, 15 tons per acre	2,677			
7 b	„	2,133			
7 c	„	1,543	2,118	276	15

The following are the results obtained from these experiments for the past four years.

In 1924, however, two crops were grown with the view of seeing whether the manures applied had any residual effect ; the results from this trial are also inserted :—

Series.	Calculated mean yield per acre lb.					Percentage increase or decrease over yield obtained from plots 1.					Average percentage increase over yields obtained from no manure plots.
	1922.	1923.	1924.	1924.	1925.	1922.	1923.	1924.	1924.	1925.	
1	1,686	900	1,658	753	1,842	—	—	—	—	—	—
2	1,692	1,075	2,233	988	2,102	3	19	36	31	14	21
3	1,749	1,069	1,953	995	2,374	4	18	17	32	28	20
4	1,711	1,138	2,159	1,141	2,208	1	24	30	51	25	26
5	1,516	1,182	1,931	1,119	2,208	10	31	16	48	25	22
6	2,087	1,108	1,976	809	2,163	24	23	19	7	17	18
7	1,559	1,193	1,595	962	2,118	7	32	3	27	15	13

It will be seen that all the plots gave better returns than the one that received no manure. It is quite possible that the poor response to pen manure is due to the fact that ground-nuts mature quickly, and the time taken from planting to harvesting was not sufficiently great for the crop to take advantage of it.

Experiments with Ground Provisions.

Yams.

A large proportion of the yam tubers grown at the Experiment Station during the year was stolen before they were reaped. On this account no useful purpose would be served by putting forward any figures connected with these trials.

Sweet Potatoes, Varietal Experiments.

The work of raising and testing new sweet potato varieties was again carried out. It might be said in connection with this that at the present moment large areas are planted with selected seedlings raised by this Department.

Eleven new varieties were experimented with, and these were tested against the well known local potato, Emma. There were three plots of each variety grown and the area of each was 240 square feet. The plots were planted on September 10th and reaped on January 15th. The results are given below.

Variety.	Calculated yield per acre.	Mean.	Increase or decrease on yield obtained from Emma.
V. 145	5,989		
	7,623		
	8,893	7,502	+1,937
V. 146	6,171		
	7,260		
	7,986	7,139	+1,574
V. 52	9,619		
	5,082		
	4,537	6,413	+849
V. 140	5,989		
	7,804		
	5,082	6,292	+727
V. 137	5,445		
	5,989		
	6,252	5,923	+358
V. 143	3,630		
	5,267		
	8,349	5,749	+184
Emma	5,263		
	5,807		
	5,626	5,565	
V. 147	7,804		
	5,263		
	3,448	5,505	−60
V. 138	2,526		
	4,356		
	1,996	2,959	−2,546
V. 144	907		
	2,541		
	4,174	2,541	−2,964
V. 142	1,089		
	1,270		
	4,719	2,359	−3,146
V. 139	544		
	181		
	181	302	−5,263

It will be seen that six of the new varieties gave heavier yields than Emma, e were quite appreciable from at least two of them.

Sugar-Cane Varietal Experiments.

This is the fourth year that experiments with cane varieties have been conduct- n St. Vincent. Before discussing the work it might be said that one important lt has been that St. Vincent planters now take quite a lively interest in the stion of the merits of various seedlings, and some are establishing nurseries of more promising varieties. This procedure will, if care is exercised, tend not y to increase production, but will also cause the yield of a more uniform lity juice than has hithertofore been obtained.

These trials were conducted at Cane Hall Estate, the property of J. Punnett . This estate is situated in the south of the island some two miles east of gstown. The plots, with two exceptions were in duplicate, the exceptions e those containing the varieties V.99 and B.7924. The canes were grown in s and a row of a measured length was regarded as a plot. Each plot was $\frac{1}{54}$ e in area. This is somewhat smaller than the plots previously experimented h, when the area was $\frac{1}{40}$ acre, the difference being the same as the number 20 o 27. The method of reaping and testing was similar to that practised in vious years. The canes from each plot were cut and weighed, and 100 lb. of e were taken to the estate mill, the juice extracted and weighed. Samples of juice of each variety was tested for density by means of a Brix Hydrometer.

It must again be stated that such tests are not absolutely correct, as the t solids in cane juice are not entirely sugar, but are sufficiently correct for pract purposes. The results are put forward in tons of cane per acre, gallons of ju per acre, gallons of juice per ton, sucrose, lb. per gallon in juice, and sucrose, per acre in juice. Much of the information appearing below was obtained using the tables dealing with the specific gravities of cane juice, which appear the West Indian Bulletin Vol. 14, page 193.

The plots were planted on September 17th, and reaped on April 26th.

Variety.	Mean of 2 plots of cane.	Juice.		Sucrose.	
	Tons per acre.	Gallons per acre.	Gallons per ton.	lb. per gallon of juice.	lb. per acre juice.
1. Ba. 11569 ...	26·75	3,359	125·6	2·147	7,212
2. B. 163 ...	26·51	3,516	132·6	2·065	7,241
3. Sealy Seedling ...	26·92	3,453	128·3	1·995	6,889
*4. V. 99 ...	21·48	2,894	134·7	1·995	5,774
5. Ba. 6032 ...	20·97	2,754	131·3	1·915	5,274
6. B. 164 ...	17·18	2,215	128·9	2·112	4,678
7. B.S. Trans ...	16·28	2,195	134·8	2·077	4,559
*8. Ba. 7924 ...	17·13	2,248	131·2	1·835	4,125
9. B. 6450 ...	15·88	2,065	130·0	1·950	4,027
10. Ba. 12079 ...	13·75	1,768	128·6	2·053	3,630
11. B.H. 10 (12) ...	11·99	1,567	130·7	2·158	3,382
12. Waterford No. 2	15·01	1,971	131·3	1·915	3,775
13. B.S.F. 12 (45) ...	13·28	1,611	121·3	2·077	3,346
14. V.1 ...	7·15	880	120·3	2·158	1,899

*1 plot grown.

The above list is headed by the variety Ba. 11569 with a return of 7,212 of sucrose per acre. The juice expressed from it possessed a saccharine richn of 2·147 lb. per gallon. The return expressed as tons of cane per acre was 26· This is the third time that this variety has taken first place in these experimen On the other occasion when tested against sixteen varieties it came fifth on list. This cane is one that is popular with St. Vincent planters, and is one t can be recommended.

The second place is taken by the variety B. 163 which gave a return 7,241 lb. of sucrose per acre with a saccharine richness of 2·065 lb. per gall In previous trials it has taken sixth place on two occasions and fourth on one.

The third place is taken by the well known variety, Sealy Seedling. yielded at the rate of 6,889 lb. of juice per acre, with a richness of 1·995 lb. gallon. This came first as regards actual tons of cane per acre. In previous e periments it has taken first, fifth and twelfth places.

In the fourth place in the above list is found the locally raised variety V. This variety has only been tried on one previous occasion when it came seco on the list. In the results before us we find that it gave 5,774 lb. of sucrose acre with a saccharine richness of 1·995 lb. per gallon. It yielded canes at t rate of 21·48 tons per acre.

The above is followed by Ba. 6,032 which gave a return of 5,274 lb. of ju per acre, with a richness of 1·915 lb. per gallon. In previous experiments it to second and tenth places.

The other varieties are perhaps not worthy of detailed comment, any o interested can obtain information from the above table. It may be said, howev that the well known variety B. H. 10 (12) took an indifferent place, especially regards tonnage of cane per acre. A variety raised locally came last. This, far as the writer is aware, is the first cane seedling raised in St. Vincent, it w raised in 1920 from seeds obtained from B. H. 10 (12).

Cotton Selection.

The work of selection discussed in this section was performed during the season 1924–25. The writing of this report and the examination of lint, etc., synchronise, and as both are done by the same individual, it becomes physically impossible to put forward cotton selection results that are up to date. In the past the results obtained were always referred to the Cotton Research Officer stationed in St. Vincent, and much of the mathematical work was done by him. This Officer left St. Vincent in April, 1926 and the writer would take this opportuuity of recording his appreciation of the very willing help given to him at all times by Mr. L. H. Burd.

In the following tables lint lengths are put forward in millimetres and the figures in the lint indices as grammes. The plants from which the results are obtained have been grouped in families ; the crosses in the tables indicate parental values.

SEA ISLAND.

LINT LENGTH.

Fam.	48	49	50	51	52	53	54
199·2 ..	2	+3	4	5	3	2	1
199·26 ..	2	+3	4	5	3	2	1
206·12 ..		2	+6	2	2		2
207·5 ..			1	+	3	1	1
207·9 ..			1	+	3	1	1
207·8 ..			1	+	3	1	1
213·3 ..			+	1	2	1	
198·14 ..	2	+	1	4	1	1	
195·2 ..	1	+2		1			
194·27 ..	+	3	3	2	2		
198·21 ..	2	+	1	4	1	1	
199·11 ..	2	+	4	5	3	2	1
198·4 ..	2	+	1	4	1	1	

SEA ISLAND.

LINT INDEX.

Fam.	3·8	4·0	4·2	4·4	4·6	4·8	5·0	5·2	5·4	5·6	5·8	6·0
199·29 ..				1	3	7	8	1		+		
199·26 ..				1	3	7	8	1		+		
206·12 ..	1	3	3		3	3	+1					
207·5 ..	1	1	1	1	2		+					
207·9 ..	1	1	1	1	2		+					
207·8 ..	1	1	1	1	2		+					
213·3 ..				1	1	2		+				
198·14 ..				2		1	2	3	1		+	
195·2 ..						1	1		2	+		
194·27 ..							4	5	1			+
198·21 ..				2		1	2	3	1	+		
199·11 ..				1	3	7	8	1		+		
198·4 ..				2		1	2	3	1		+	

The first seven of the above were selected for lint length, the following four for high lint index and the last two for a combination of both.

MARIE GALANTE.

In the following the results obtained from selections from Marie Galante cotton are given.

LINT LENGTH.

Fam.	35	37	38	39	40	41	42	43	44	45	46	47	48
12·2 ..						+				3			4
12·7 ..						+				3			4
10·10 ..				+		2	1	2	1	1		1	1
6·2 ..								1			+6	1	
6·6 ..								1			+6	1	
6·10 ..								1			+6	1	
6·15 ..								1			+6	1	
6·9 ..								1			+6	1	
6·3 ..						1	2	+				1	
6·16 ..								1			+6	1	
2·7 ..		1						3	+	1		1	
2·4 ..		1						3	+	1		1	
10·1 ..				+		2	1	2	1	1		1	1
10·9 ..				+		2	1	2	1	1		1	1
6·2 ..						1	2	+				1	
4·9 ..			1		+1		4	1	1				
7·9 ..	1				1	2		1	+1				
2·5 ..		1						3	+	1		1	
4·3 ..		1	1	1	+1			2	2	2			
1·15 ..		3					2				2	+	1

MARIE GALANTE.

LINT INDEX.

Fam.	1·8	1·9	2·0	2·1	2·2	2·3	2·4	2·5	2·6	2·7	2·8	2·9	3·0	3·1	3·2	3·3	3·4	3·5
12·2											+2	1	1					
12·7											+2	1	1					
10·10											+2	2	1			3		1
6·2	4		2				+				1							
6·6	4		2				+				1							
6·10	4		2				+				1							
6·15	4		2				+				1							
6·9	4		2				+				1							
6·3					1				1		4	+			1			
6·16	4		2				+				1							
2·7								1		2		1	+1	1	1			
2·4								1		2		1	+1	1	1			
10·1											2	2	+1			1		1
10·9											2	2	+1			1		1
6·2					1				1		4		+		1			
4·9						2		1		4			+	1				
7·9					1				1		1		+1					
2·5								1		2		1	+1	1	1			
4·3											2	1	+1					
1·15					2		1		1		1		+1					

Work Connected With Insect and Fungus Pests and their Control.

The Cotton Stainer (*Dysdercus delauneyi.*)

During the year the number of cotton stainers was so small as to be almost igible. To this, however, there was one exception and this was in a locality ated in the High Windward part of the island, a district that has always caused nsiderable amout of worry and trouble. Insects in large numbers were found, at one time as many as 300 traps were set. The insects were found in the nth of March and the Cotton Inspector, who was placed in control of the pest, stationed in that part of the island for some two months. There are more ners carried over from one season to another in this district than in any other, the loss caused by them must be considerable. It is conceded that stainer trol is perhaps more difficult in the High Windward part of the island than in majority of places. The land is of high fertility and of a nature eminently able to cotton. Consequently large cotton plants are produced, and as would expected, weeds thrive, these consist mainly of Indigo, Maiden's Blush momordica) and Sida. The first mentioned grows in the fields, and towards the of each season attains a height of some three or four feet. These plants seem uliarly adapted to obtain and retain seed cotton during the reaping season. is means that if care is not exercised large quantities of food material are avail- e for stainers at the end of each crop. The Maiden's Blush and Sida grow on borders of the fields and, after the destruction of the Indigo, stainers migrate them in search of the food provided in the form of seeds, which again help to long their existence. The simultaneous destruction of all weeds and setting traps would go a long way towards rectifying matters.

Apart from the above it was difficult, and in some cases impossible, to find a gle stainer during the greater part of the year, and it can with confidence be d that on 98 per cent of estates in the island this pest did little or no damage. the whole planters cleaned their fields up thoroughly before the beginning of e Close Season.

In the following table the number of stainers accounted for at the Experiment tation during the past four years are given. The method of computing the mbers of insects was published in the Report on this Department for 1925. It ght be said that some few errors appeared in the table put forward last year, ese are corrected in the one below.

Months.	1922.	1923.	1924.	1925.
January ...	135,909	37,878	20,086	1,449
February ...	548,400	63,800	2,800	7,723
March ...	129,660	51,880	930	6,231
April ...	40,760	3,002	1,225	2,400
May ...	6,100	817	52	716
June ...	3,693	908	—	—
July ...	230	550	—	—
August ...	209	87	—	1
September ...	88	3	—	1
October ...	89	8	—	—
November ...	210	—	—	—
December ...	900	377	57	550

The campaign carried out during the past season was on the same lines as in previous seasons. It consisted of :—

a. The enforcing of a close season.
b. The trapping of the pest when found in numbers.
c. The destruction of food plants.

To enforce a close season necessitated a considerable amount of ard work. For this the island was divided into sections and each placed in charg an Agricultural Officer who was responsible for enforcing the law, and for control of the pest under discussion. The Foreman, Botanic Gardens, w charge of the area between Kingstown and Chateaubelair, the Foreman, Ex ment Station, for that lying between Kingstown and Spring Estate, and the ton Inspector for the area between Spring and Georgetown and beyond Geo town. The object aimed at was to visit and inspect every field in which co had grown during the previous season. A large proportion of the work ha be done on foot, which is no light task in a tropical country. With the excep mentioned above most cotton growers thoroughly realise the amount of good has accrued from this work, and Officers of the Department, as a general rule, supported by them.

Sixty-five large and four small Silk Cotton trees (*Eriodendron anfractuos* D.C.) were cut down, four small ones were also destroyed and four were prun Of the above, fifty-seven were growing at Union Island. In this place difficu was experienced in obtaining labour to carry out the work. Union Islanders w on account of superstition, afraid to destroy the trees and labourers from Vincent would not go. Eventually men were obtained from the neighbour island of Bequia.

The season just completed may be regarded as a successful one as far stainer control is concerned. For the past four seasons, a pest which at one ti threatened the very existence of the cotton industry, has been kept well in ha This has only been done by hard work carried out without favour, at times of distinctly unpleasant nature, as the carrying out of it periodically ended in havi to formulate charges against one's intimate friends, which were eventually hea in a Magistrate's Court.

The Pink Bollworm (*Platyedra gossypiella*).

It can be stated that the attacks of this pest since its appearance in the isla in December 1923, have been well controlled. In fact this has been so successf that some individuals are inclined to underestimate the danger that pink bollwor is capable of. During the season the first typical pink bollworm puncture on cotton boll was noticed in St. Vincent on September 25th. This corresponds ver closely with the date on which a similar puncture was first noticed in 1924, i. September 22nd. In Bequia, however, indications of the presence of the pest wer found on August 12th. In this latter island cotton is planted with corn, cassav and other crops. This means that in some seasons, as in the past one, early boll are shed, and the bulk of the crop is thus obtained from bolls which mature later As would be expected the damage done by pink bollworm was much greater tha it would have been if the early bolls had matured. Again, when cotton is plante with other crops the work of cleaning up after the cotton crop is over is seldom thoroughly done, as a number of bolls on the ground are hidden, firstly by th dead corn stalks and secondly by the cassava plants. This latter crop is often reaped after the cotton.

It would seem as though the moths of this pest do not travel, to any great extent, from one field to another. This fact has been noticed in the Grenadines when in more than one instance the difference in the amount of pink bollworm infestation on plants growing in adjacent fields varied very considerably. Another instance to emphasise this fact was noticed in St. Vincent. A field of cotton planted in August on land that had lain fallow for some years was producing ex- cellent cotton, quite late in the season, and was practically free from the pest in question. The nearest field to this was only a few hundred yards distance. If this observation is correct the fact whether a field is badly attacked early in the season by pink bollworm indicates, to a great extent, carelessness during the previous season on the part of the grower in that the cleaning up was not done in a thorough manner, or that seeds for planting had not been properly fumigated. In other words, it is his own fault.

As previously stated pink bollworm is not regarded seriously by some individuals, so perhaps it might be well to examine shortly the nature of the injury done by this pest to the cotton crop. It is capable of attacking and completely destroying young bolls and flowers, in mature bolls the seeds may be completely ruined, and lint seriously damaged. Seeds from cotton badly attacked by pink bollworm have their power of germination affected, as is the quality of the oil obtained from them. They also cause the arrest of boll growth and the rotting of lint. It will be understood from the preceding that such a pest cannot be regarded lightly.

The planters of cotton in St. Vincent are lucky in that the greater proportion of the crop is ginned under direct Government supervision. Of the crop of 585,483 lb. of lint, the Government Cotton Factory turned out 405,650 lb. This Factory is under very careful management and every effort is made, not only to carry out the letter of the law, but the spirit of the law, which makes all the difference in the world when handling such a problem as pink bollworm control. In addition to the Government Cotton Ginnery or Factory, there are two smaller ginneries, and they also did their utmost to observe Regulations put together for their guidance. Another very satisfactory feature connected with the work under discussion is the great improvement in the manner planters clean in and around their cotton store rooms after the crop is over. A few years ago this work was done in a very slovenly manner, but in most cases it is now done thoroughly. The work of crushing seeds, fumigating seeds and bags, the importation of carbon bisulphide, etc., was closely watched by officers of the Agricultural Department during the past season.

EXPERIMENTS WITH PINK BOLLWORM.

Infestation of Seed.

Several counts have indicated that there are approximately between 4,200 and 4,600 cotton seeds to one pound and this works out roughly at 10,000,000 to the ton. This figure was obtained so as to form some idea of damage done to seed by pink bollworm at the end of the past season ; 500 seeds were examined towards the end of May with the following results. Ten single seeds were found that had pink bollworm larvae, and in addition five double seeds had the insect in them. There were indications that 36 seeds had at some time been attacked by pink bollworm. The condition of these was such as to make them almost useless for oil or planting purposes. Assuming that 10,000,000 represent one ton we arrive at the following :—

It is possible that 700,000 seeds per ton would show evidence of pink bollworm attack,

200,000 single seeds per ton would have living pink bollworm larvae.

and 100,000 double seeds " " " " " "

From the above it may be computed that at the end of crop 10% of the seed either was, or had been attacked by pink bollworm, and rendered practically useless for planting or oil extraction. It would be interesting to make periodical counts and examinations of seed, and an attempt will be made to do this next season.

Burying of Larvae.

These experiments were conducted with the view of obtaining some idea as to what is likely to happen to resting stage pink bollworm larvae when left in the field after crop is over. For each of these trials sixty double seeds were obtained. Of course, there was no way of finding out whether healthy larvae or any larvae, were in the seeds or not without opening them, which probably would have injured the insects. Ten seeds were put in six bags, placed in boxes full of soil and left exposed to the weather. The following gives details :—

Condition.	6 days after commencement of experiment.	11 days after commencement of experiment.	12 days after commencement of experiment.	21 days after commencement of experiment.	30 days after commencement of experiment.
On surface of ground.	20 seeds examined, 8 worms alive, 2 dead.	10 seeds examined, no living worms 1 dead.	10 seeds examined, no living or dead worms	10 seeds examined, no living or dead worms.	
1 inch below surface.	20 seeds examined, 11 worms alive, no dead worms.	10 seeds examined, 1 dead, no living worms.	10 seeds examined, 3 living worms, 1 living pupae & 2 dead worms.	20 seeds examined, no living or dead worms.	
Under light covering of trash.	20 seeds examined, 13 living and no dead worms.	10 seeds examined, 5 living and no dead worms.	10 seeds examined, 3 living and no dead worms.	10 seeds examined, 7 living and no dead worms.	10 seeds examined, 7 living and no dead worms.

It might be said that the day temperature on the ground varied from 31°C to 54·5°C. After each examination the soil from the boxes was thoroughly sifted, but no worms or pupae were found.

These results appear to indicate that protection from the sun is necessary for the general well-being of pink bollworm larvae. When covered with trash apparently as many were alive after thirty days as after six. It seems peculiar that, in the first two trials mentioned above, in some cases no evidence was found of the presence of pink bollworm after the first examination was made. This might be due to rapid decomposition of the insects after death.

This work seems to suggest that cotton fields should be cleaned and exposed to the sun for a few weeks before any green dressing is planted, for such would, in a short space of time, provide shade for any pink bollworm that may be present in the field. The work also suggests the danger that may be expected to result from the interplanting of other crops with cotton, crops that at times, through shedding of leaves, are likely to form a covering for seeds and bolls infested with pink bollworm.

Cotton Worm (*Alabama argillacea*).

This pest attacked cotton growing in the Northern Grenadines. A note on this will be found in another section of this report.

Red Ring of Coco-nuts (*Apheleachus coccophilus*).

Red ring was first detected attacking coco-nut plants in St. Vincent in 1923 and since then the disease has made little or no progress. It should be remembered however, that the past two years have been exceptionally dry ones, and a series of wet ones might materially alter the aspect of affairs as far as this pest is concerned. Apart from any consideration of its dissemination by water, the fact that the only control is complete destruction by fire, must not be lost sight of, and it is much easier to do this during a dry year than it is during a wet one. This fact is mentioned for there are one or two isolated areas under coco-nuts which ought to have received attention in the past, when the work would have been comparatively easy. It might be said that a large proportion of the coco-nut cultivation in St. Vincent has passed the critical stage, but new areas are being planted every year. This latter should receive careful watching, and ruthless handling should the disease make its appearance.

Arrowroot Worm (*Calpodes ethlius*).

This worm was not so common during the period under review as it was during the previous one, but in some fields in certain months it was present in

pers. The statement is often made that this pest, although it defoliates the s, causes little or no loss to the crop. During 1924 an effort was made to whether this statement was correct or not, and again in the past year a similar ipt was made. For this experiment four plots in triplicate were used, and of these were 160 square feet in area. The plots in series A were the controls, the foliage of the plants growing thereon was left untouched, on the other the foliage was cut down to simulate attacks of caterpillars. The following the treatment accorded to each :—

A. Control.

B. Foliage completely cut down on November 6th to simulate a severe attack of caterpillars.

C. Foliage cut down gradually between November 6th and 13th, to simulate a rather severe attack of caterpillars.

D. Foliage cut down gradually on November 6th, 13th, 20th and 27th, to simulate repeatedly attacks of caterpillars.

The results are given below calculated as pounds of rhizomes per acre. The were planted on February 17th and reaped the following year on February 26th.

Series.	Plot 1.	Plot 2.	Plot 3.	Mean.	Increase or decrease on control.
A	5,989	15,246	5,717	8,984	
B	3,267	6,262	5,717	4,915	—4,069
C	9,529	7,072	6,262	7,621	—1,363
D	14,974	6,262	13,068	11,435	+2,451

Increases were obtained from the plots in series D, and decreases in the other In a similar trial made in 1924 increases were obtained from series B. So s these experiments go it would seem as though defoliating arrowroot plants not seriously affect yields.

Other Pests.

Cotton.

Bush Bugs (*Nezara viridula*) were perhaps less common in the island than have been for years. This was specially noticeable on one estate in the ward District where cotton for the past few seasons has been severely attacked this pest. It was controlled by destroying weeds belonging to the order uminoseae and by not growing peas and beans as an estate crop.

Early in the season Bronze Beetle (*Colaspis fastidiosa*) was found in many on fields. They were not so numerous as they were during the previous year, the damage done was not of any great moment.

The presence of soft rot (*Phytopthora sp.*) and the fungus, *Sclerotium rolfsii* noted in another part of this publication.

West Indian Leaf Mildew (*Ovulariopsis gossypii*) was, as usual, common on cotton plants towards the end of the season.

Leaf Blister Mite (*Eriophyes gossypii*), Black Scale (*Saissetia nigra*), and ite Scale (*Hemichionaspis minor*) were all present during the period under ort. All, however, were of minor importance.

Sugar-Cane.

Root disease (*Marasmius sacchari*) was found in most fields of sugar-cane. s is probably accountable for more damage than is realised ; the best way to bat it is perhaps by liberal manuring and good farming practise.

Rind fungus (*Melonconium sacchari*) and Pine apple disease (*Thielaviop paradoxa*) were present during the season.

The Moth Borer, (*Diatrea saccharalis*) the Weevil Borer (*Sphenopho sericeus*) and Mealy Bug were also found on sugar-cane.

Cacao.

Phytophthora rot of pods was moderately common. Thrips (*Heliothrips r rocinctus*) were noticed but did no appreciable harm.

Sweet Potatoes.

Jacobs or Scarabee (*Cryptorhynchus batatae*) and Red Spider (*Tetranyc telarius*) were at times present. The former pest is perhaps more plentiful in island of Bequia than in other parts.

Coco-Nuts.

The Palm Weevil (*Rhynoephorus palmarum*), White Fly (*Aleyrodicus cocc* and scale insects, (*Aspidiotus destructor*) were all found on coco-nut palms. T two latter pests were much more common than the first mentioned.

General.

Arrowroot Worm (*Calpodes ethlius*) was found in arrowroot fields during t past year. Their numbers were perhaps not so great as in the previous o Corn ear worm (*Laphygma frugiperda*) were moderately common but in no w as numerous as in 1924. Other pests were found on certain plants but the dama done by them was not sufficiently great to warrant discussion.

PLANT AND ANIMAL LEGISLATION ENACTED DURING THE YEAR 1925.

On March 31st, an Order in Council was Gazetted prohibiting the growing Sea Island cotton in the islands of the Southern Grenadines. The reason for su is discussed on page 19 of the Report on this Department for the year 1924.

An Order in Council was Gazetted on March 31st, in which the months April and May were declared to constitute the Close Season for cotton for S Vincent and the Northern Grenadines.

LAND SETTLEMENT.

The usual crops consisting of ground provisions, arrowroot, casava, fruit, e were grown on the land settlements during the past year. There was an incre in the areas under cotton and arrowroot. The former increase was due to the f that the return of seed cotton per acre has improved considerably during the p few years. The latter was due to good prices paid for arrowroot during 1924. soon as the price of this commodity advances increased areas are planted. T remark is applicable to both planters and peasants.

One point in connection with peasant proprietorship is that it tends, on whole, to make better citizens as it imparts a sense of responsibility, and undou edly leads to greater interest being taken in local affairs.

EXPERIMENT STATION, UNION ISLAND.

Cotton Selection.

Figures dealing with this work will be found in another section.

Rainfall.

The following gives the monthly rainfall as measured in Union Island during 925. The readings were recorded by the District Officer, Southern Grenadines.

Month.	Rainfall.
January	1·04
February	·42
March	1·05
April	·15
May	·47
June	5·85
July	4·29
August	8·76
September	3·73
October	1·61
November	4·34
December	1·45
Total inches	33·16

Miscellaneous.

Onion seeds of the Bermuda variety were obtained and sent to Union Island. These were received in the month of September which is really too late in the year to ensure success. However, as it has been demonstrated that onion seeds can be successfully grown in this place ; efforts will be made to obtain a supply early during the coming year. These will be purchased in New York. Various types of peas and beans were grown and distributed to peasants. In addition, plots of sorrel, broom corn, Marie Galante cotton, etc., were planted.

PROGRESS IN CHIEF INDUSTRIES.

Cotton Industry.

The area under cotton in St. Vincent and the St. Vincent Grenadines during the season under review amounted to 6,348 acres. Of this 4,986 acres were planted under Sea Island cotton and 1,359 acres under Marie Galante.

Following the procedure adopted in previous years the appended tables are given. They indicate the number of peasant and estate growers of cotton in the Colony and the area under this crop for the seasons 1924–25 and 1925–26.

Table 1.

1924–25.

		Sea Island. Acres.	R.	P.	Marie Galante. Acres.	R.	P.
1,065	Peasants, St. Vincent ...	912	0	4			
233	„ Bequia ...	204	0	22			
274	„ Union Island ...	52	1	12	618	2	26
38	„ Canouan ...	23	2	10	50	3	0
1	„ Battawia ...	5	0	0			
1,611	Peasants ...	1,197	0	8	669	1	26
42	Estates, St. Vincent ...	1,898	2	0			
6	„ Grenadines ...	199	0	0	600	0	0
48		3,294	2	8	1,269	1	26

TABLE 2.

1925-26.

			Sea Island. Acres.	R.	P.	Marie Galante. Acres.	R.	P.
1,909	Peasants, St. Vincent	...	1,865	1	35			
309	,, Bequia	...	301	2	20			
251	,, Union Island	...				673	3	25
45	,, Canouan	...				83	2	20
1	,, Mayreau	...				1	2	20
2,515	Peasants	...	2,167	0	15	759	0	5
46	Estates, St. Vincent	...	2,674	2	0			
4	,, Grenadines	...	147	2	0	600	0	0
50			4,989	0	15	1,359	0	5

When comparing the figures for the past two seasons perhaps the most striking feature is the large increase of peasant cultivators of Sea Island cotton there being an increase of 900. The area planted by this type of cultivator amounted to some 970 acres more than in the previous season. The extension in estate grown cotton was 725 acres. The figures for Marie Galante cotton show little variation, there was, however, an increase of some 90 acres.

During the early part of the past season a considerable number of cotton fields did not receive the attention necessary to keep them clean. Consequently weeds grew to such an extent that, in some cases, the cotton plants were killed and in others they grew spindly and etiolated. In places the killing of the young plants was due to attacks of the fungus, *Sclerotium Rolfsii*, Sacc., but these were undoubtedly aggravated by the presence of weeds which created an atmosphere conducive to the well-being of the parasite. The most common weed was perhaps Bahama Grass, *Cynodon Dactylon*, Pers., which on account of the tenacity of life possessed by its root-stock is difficult to control. In addition showery weather was experienced at this time which helped to complicate the position. There is no doubt that in certain parts planters were embarrassed by scarcity of labour caused by immigration to Cuba, but this was not wholly the cause of the trouble. It must be said, however, that some estates gave what almost may be termed garden cultivation to their fields and in many such cases most excellent returns were obtained. At times soft rot (*Phytopthora* sp.), was common and caused damage, this was specially pronounced in the High Leeward part of the island. In one island of the Grenadines a severe and persistent attack of cotton caterpillars, *Alabama argillacea* Hubn., was experienced during the latter end of the year. This did considerable damage to the crop, and although the plants made a fair recovery, the loss caused by this insect was not inconsiderable. On the same island, difficulty was experienced in getting the crop established, and this was caused by earwigs (Forficulidae) eating the leaves of the plants when in, before, or just beyond, the cotyledon stage. As far as the writer is aware this is the first time on record that these insects have been cited as pests of cotton in St. Vincent. The land on which the earwigs were found had not been cultivated for a considerable period of time and it is quite possible that deprived of their customary food, they were forced to find a substitute.

The season under discussion has on the whole been a successful one, although the return per acre has not been as good as for the previous three seasons. Some of the causes to which this may be attributed are given above, but in addition there are others. In Bequia, where some 250 acres were grown, returns were very meagre, This was due to thick interplanting of corn and cassava with cotton. In consequence of this the main crop was overcrowded to such an extent that most of the early bolls were shed, and as would be expected the bolls that

e formed later were somewhat severely attacked by pink bollworm. Again, St. Vincent, there was a large increase of area under peasants' cotton, and in ıy cases peasants in this island practise the same method of cultivation as they ın Bequia.

It is pleasing to be in a position to state that the damage done to cotton ing the year by pink bollworm showed no increase on that of the past. In ıt of fact the infestation in the Leeward part of the island was less than in the vious season. It might be said, that on the whole, planters in this District n up their fields in a more careful manner than planters in other localities, in addition to this destroy cotton plants somewhat earlier than their confrérés he Windward District. Second pickings being seldom or never obtained in part of the island.

The total amount of lint produced during the season under review was ,483 lb.; of this 65,322 lb. were stained, *i.e.*, some eleven per cent; a satis- ory figure as far as St. Vincent is concerned. It might be stated that the ntity of cotton produced during the season has only been exceeded on one vious occasion, and that was in 1920–21 when the area planted was 6,453 s and the return was 614,508 lb. of lint. The return per acre for 1925–26 ks out at 119·7; this is the fourth successive year that satisfactory returns e been obtained, and it is suggested that had a little more care and attention ı given to the crop much better yields would have resulted.

The figures in the table below (Table III) are interesting and of some signi- nce. Taking the four seasons immediately preceding 1922–23 we see that the rage return of lint per acre was some 94 lb. and that for the four seasons owing, it was approximately 139 lb. *i.e.*, a difference of 45 lb. It may not be of place to indicate what this, approximately, means in hard cash. For the er mentioned seasons a total of 13,136 acres of land were planted; had the out remained at an average of 94 lb. per acre the returns would have been 4,984 lb. of lint. The average, however for this period was at the rate of lb. per acre, which resulted in an output, of 1,825,904 lb. of lint, a difference 91,120 lb., worth some £68,900. This figure is arrived at by assuming the ıe of white lint to be 2/6 per lb. and stained 1/- and calculating that the propor- of white to stained to be as 90 is to 10. Lint, however forms approximately one rter of the marketable crop, the remaining three quarters being seed. There- , the seed cotton from which 591,120 lb. of lint was obtained would produce 3,360 lb. of seed, or expresed in tons, 791. Assuming the price to be £8 ton we gather that the value is some £6,600. Adding these figures to those ın for lint we see that the combined valuations come to more than £75,000; ery considerable sum of money, which undoubtedly added to the general wel- of the community.

TABLE III.

Crops.	Area planted, acres.	Weight of lint, lb.	Weight of lint per acre, lb.
1916-17	2,404	160,168	66
1917-18	3,458	329,115	95
1918-19	4,588	437,273	95·4
1919-20	5,079	475,650	93
1920-21	6,453	614,508	95
1921-22	2,907	278,744	93
1922-23	3,562	575,640	161·6
1923-24	3,387	473,248	139·7
1924-25	3,294	449,295	136·5
1925-26	4,893	585,483	119·7

The average yield per acre for the past ten years works out at 109·5 lb.

Following the procedure adopted in previous years, the annexed (Table IV)

has been compiled. It shows the amount of Sea Island cotton exported for period indicated :—

TABLE IV.

Years.	Export of lint, lb.
1915-16	237,387
1916-17	99,688
1917-18	427,273
1919	484,097
1920	494,871
1921	502,308
1922	338,279
1923	585,143
1924	520,369
1925	473,219

White cotton was valued at 2/6 per pound, stains at 1/-. The quantity Marie Galante exported was 109,141 lb., of this 100,468 lb. were seed cotton the remainder lint ; it was valued at £1,149. The quantity of this latter t produced during the season was 85,592 lb. made up of 29,400 lb. of lint 56,192 lb. of seed cotton.

In the Report on this Department for the year 1921, Mr. T. G. Mas Research Officer, made the suggestion that late planting of cotton would elimi a great deal of losses annually sustained by shedding, bacterial boll rot, and rot. He put forward other reasons for this suggestion and one of the m important was, that such a procedure would give planters an opportunity of gr ing a crop of green dressing before planting cotton. When this was wri cotton stainers made their appearance in fields in large numbers at the end of e season and it was felt that this would possible vitiate any good which might expected to accrue if the suggestion were carried out. Now, however, stai have been relegated almost to a position of minor importance and the point is such value that a useful purpose may be served if it is again discussed.

Speaking roughly, most of the Sea Island cotton is planted so that it fo and matures its bolls in the wettest months of the year when the conditions ideal for the growth of parasitic fungi. The loss due to these must amount thousands of pounds every year. The writer has seen in numerous cotton fi twenty-five per cent of bolls attacked and made useless by soft rot, etc., and infestation of sixty or more per cent has at times been noted. If cotton plan took place in August bolls would commence to form in October from which mo there is a steady decline in rainfall. Another feature of importance is that w cotton is reaped in wet weather a proportion reaches ginneries in a damp state sometimes is ginned in this condition. This, as is well known, leads to crimping lint, which has already given birth to complaints and is termed by buyers " cut ". The position in the immediate past has been intensified by planters providing sufficient housing space in which to dry and assort cotton brought from the field. It stands to reason that cotton is easier dried and cleaned in weather than it is in wet. The arguments for and against this suggestion are follows :—

a. Loss from shedding and boll rots would be much reduced.
b. Planters would have better opportunities of growing green dressing cotton lands.
c. Cotton picking would take place in the drier months and would result better assortment and preparation before being sent to ginneries.
d. The danger of picking seed cotton when damp would be minimised.
e. There would undoubtedly be a clash between harvesting of cotton planting and reaping of cane which would probably result in lab difficulties.

The above suggestions are put forward for consideration of local planters, d if any action is taken, the request for such should come from them.

Cacao Industry.

The quantity of cacao exported during the year amounted to 154,821 lb. ; largest amount sent out of the island since 1919. There is no doubt that al cacao production could be increased if more attention, as regards manuring l general cultivation, were given to the crop. On some estates where this is ne quite good yields are obtained, but as pointed out before, St. Vincent cannot regarded as a cacao producing island in the same sense as some neighbouring es. In addition, the low prices that have ruled in the past have been no incen- e to planters to give time and attention to, and in addition spend money on, a p that is not remunerative, especially so when others of a more paying nature n be grown. The hurricane of 1921 severely damaged the cacao trees in the and, and the fact that a good yield was obtained during the period under report es not indicate that greater attention was given to the crop, but rather that the nts have recovered from the effects of the storm mentioned above. Apart from eases of cacao, which are dealt with in another part of this publication, rats use considerable damage to this crop.

The exports of cacao for the past decade are given in the following :

Year.	Weight lb.
1916	178,744
1917	133,391
1918	207,507
1919	219,545
1920	168,594
1921	139,135
1922	137,349
1923	121,374
1924	130,910
1925	154,821

According to Treasury returns the cacao exported during the year was valued £2,345. This works out at approximately 3·6d. per lb.

Starch Industry.

The prices ruling for arrowroot during the year were, on the whole, good, t towards the end, large quantities were unsold in England. The proportion of owroot produced in St. Vincent that has found its way, during the past ten ars to the United Kingdom, works out at 66% of the total ; 34% being shipped other countries. There has nearly always been a tendency to produce and ship England more than the market in that country requires. It would seem as ough the United States of America is absorbing much more of our arrowroot an it previously did. For the past ten years the average quantity annually eived by this latter country works out at 189,806 lb. The past two years have, wever, witnessed a considerable increase, for during this period 1,026,820 lb. re exported to the United States. Of this amount 649,977 lb. were sent there ring the period under review. The Canadian market absorbed rather more owroot in 1925 than it usually does ; the quantity being 206,542 lb. For mparison it might be stated that the average amount shipped to Canadian ports the past ten years works out at 189,920 lb. In addition to the preceding, 4,300 lb. of arrowroot were shipped during the period under review to inter- onial markets, and 11,200 lb. were sent to Holland.

The quantity of cassava starch that was shipped amounted to 470,284 lb. his was much less than during the previous year, but more than the average the past decade, which works out at 329,461 lb.

The following table gives the exports of arrowroot and cassava for the p ten years :—

Year.	Arrowroot lb.	Value. £	Cassava. lb.	Value. £
1916	4,441,242	37,619	182,004	860
1917	4,737,584	40,296	218,390	1,420
1918	5,084,262	95,828	332,227	3,831
1919	2,244,276	42,222	430,415	4,836
1920	2,794,532	52,771	343,309	3,844
1921	2,093,358	21,216	156,888	1,666
1922	3,627,401	26,141	155,521	1,482
1923	2,177,182	31,829	366,085	3,700
1924	2,952,535	51,361	634,631	6,838
1925	3,189,740	125,068	470,284	4,160

According to Customs returns the arrowroot exported was valued at £125,0 and the cassava at £4,160.

Possibilities of Production of Paper and Industrial Alcohol from Arrowroot Bittie.

Arrowroot bittie is the local name given to the fibro vascular bundles of th rhizomes of the arrowroot plant after the extraction of the starch. It is a wast product and has no use other than that of manure. The suggestion was mad that possibly this material could be utilised for paper making and a quantity wa baled and shipped to the Imperial Institute for experiments in this connectio The following gives the result of examination on arrival :—

Moisture	12·5	per cent
Ash	5·1	„ „
Cellulose in "bittie" as received	32·6	„ „
Cellulose expressed on moisture free "bittie" ...	37·3	„ „

The ultimate fibres measured from 0·3 to 1·1 mm., with an average of 0·6 mm

The "bittie" as received was treated with caustic soda under condition similar to those employed for the production of paper pulp on a commercial scal with the following results :—

Caustic soda used.		Conditions of boiling.		Parts of caustic soda consumed per 100 parts of bittie.	Yield of dry unbleached pulp expressed on "bittie" as received. Per cent.
Parts per 100 parts of "bittie."	Parts per 100 parts of solution.	Time. hrs.	Temp. °C.		
20	4	6	140	15·0	35

The pulp obtained under the above conditions contained fragments of th material which had not been completely disintegrated. It gave a fairly stron but harsh paper, which on drying shrunk to the extent of about 15 %, expresse on the length of the sheet. (A specimen of this was received). The pul bleached fairly easily, and then yielded a harsh "rattly" paper of fair strength which also shrunk considerably on drying. (A specimen of this was also received

Moreover, the amount of caustic soda consumed in the process of digestion is ;ually high. Although the pulp bleaches fairly readily the paper furnished by unbleached pulp is of an unsatisfactory character.

Subsequent to the above the Director of the Imperial Institute requested that it 10 cwt. of "bittie" should be sent to the Royal Naval Cordite Factory for stigation in connection with this as a source of industrial alcohol. The material uestion was forwarded, and the following is an extract from the report sub- ed. "In order to obtain information, a number of hydrolysis and fermen- on experiments were carried out with the material. The preliminary rolysis with weak sulphuric acid of various strengths from 0·2 to 2·0 per cent, e yields of reducing sugars varying from 11·77 per cent to 60·70 per cent of material. The hydrolysis was carried out at 10 lb. pressure for a period of ours. A sample, which had been subjected to the 2 per cent sulphuric acid rolysis, was neutralised and the resulting mash sterilised and inoculated with ure culture of distillery yeast, and left to ferment at 37°C. After three days a d at the rate of 40 gallons of 95 per cent ethyl alcohol per ton of raw material obtained. This yield, calculated on the amount of carbohydrates (glucose) sent in the mash before fermentation, amounted to 34·8 per cent, the theoreti- being 48 per cent."

"A second consignment was obtained and a chemical analysis showed that it ded 54·2 per cent of reducing sugars on hydrolysis; a yield of this order will equal to 53 gallons of 95 per cent alcohol per ton of the raw material. These ds were reached on a laboratory, and almost reached in the semi-technical scale nt, as will be seen in the following table :—

Sample.	% of carbohydrates extracted from raw material.	Carbohydrates concentration on mash		Duration of fermentation.	Quantity of mash fermented.	Yield of alcohol expressed in gallons of 95% ethyl alcohol per ton of raw material.
		before fermentation.	after fermentation.			
	per cent.	per cent.	per cent.	hours.		gallons.
o. 1 ours at 0 lb.	54	4·6	1	72	4·25 litres	51
o. 2 ours at 0 lb.	51	3·85	0·93	72	23 gallons	48
o. 3 ours at 0 lb.	51	3·85	0·93	72	5 litres	53
o. 4 ours at 2 lb.	49	3·8	1·1	72	22 gallons	45

As a treatment involving acid hydrolysis under pressure presents considerable iculties, attempts were made to adapt the Boulard process for this raw material, brief description of this is given in the appendix (not reproduced). The pre- inary experiments were not very successful owing probably to the bulky nature he raw material necessitating the use of very large quantities of water for the ire submersion of the arrowroot residues. Further trials were then carried out h the disintegrated material. The best results obtained in these trials amounted 37 gallons of 95 per cent alcohol per ton of disintegrated raw material, equal to out 70 per cent of the yield theoretically possible. The mash in these trials nsisted of 15 parts of disintegrated arrowroot residue to 85 parts of water, or

nearly double the concentration of the mash in the case of those experimer the arrowroot residue had been previously disintegrated.

"Though it is possible that still higher yields of alcohol may be obtai arrowroot residue by the application of the Boulard process, it may be st this method is suitable and that arrowroot residues, when fermented process, will yield at least 37 gallons of 95 per cent alcohol per ton material."

An estimate for a distillery was obtained from Messrs. E. T. Pearson the Crown Agents. This plant was stated to be capable of handling 1,30 "bittie" and other starchy materials, and in addition 200,000 gallons molasses. The estimated cost of this was £4,970. This did not include t erection, masonry, etc. It should be stated that with this plant it was s that the saccharification should not be affected with the mucor but by process, where the starchy materials are treated in cookers under pressu sufficient acid to produce the transformation of the starch into fermentab After consideration it was decided that the cost involved was too high, matter was not further proceeded with. The information now put forwa will be useful as a record and may be of value in the future.

Syrup Industry.

During the early part of the year Professor Boyd, Sugar Technolo perial College of Tropical Agriculture, visited St. Vincent, to investi methods of syrup manufacture in the island. Among various recomm he suggested the use of invertase, a by-product of brewers yeast, as a p of crystallization and fermentation. Some of this material had been obtain the visit of the Sugar Technologist, but previous to the visit planters ob carry out experiments as its use necessitated the double boiling of juic sequently one planter, the Hon'ble A. Fraser, consented to conduct a tr syrup resulting from this possessed a density of some 43° Beaumé, the fla good, but the colour was slightly darker than the best grades produced in th It is not suggested, however, that the use of invertase caused this Samples of this were put in two types of bottles which were not sterilis the syrup was put into them. Both types possessed the ordinary screw one half of the number of bottles was sealed with paraffin wax and the o was not ; a bottle was opened and examined each month. This experim started eleven months ago and so far no crystallization or fermentation h place. It is quite evident that a simple method of syrup preservation adopted by manufacturers if they so desire.

A bumper year as regards syrup production was experienced and gallons were exported, a quantity that has not been exceeded, except in 1 very many years.

The export of sugar and syrup for the past ten years are given below

Year.	Sugar lb.	Value £.	Syrup Gallons.	Value £.	T
1916 ..	1,198,314	9,520	33,771	1,475	
1917 ..	1,264,201	11,584	81,114	3,102	
1918 ..	316,640	3,295	79,834	4,796	
1919 ..	250	3	170,482	10,722	
1920 ..	..	..	185,999	27,828	
1921 ..	322,560	3,514	117,157	9,878	
1922 ..	150,080	1,264	134,784	9,862	
1923 ..	145,944	1,863	275,932	18,711	
1924 ..	22,400	280	261,127	15,758	
1925 ..	..	..	268,118	19,672	

The practice, adopted in former reports, of converting sugar exported into terms of syrup is again put forward, it being estimated that 300 gallons of syrup are equivalent 1 ton of sugar. Equating sugar into terms of syrup on this basis, the export for the past ten years in terms of syrup are as follows :—

Year.	Syrup, gallons.
1916	193,271
1917	97,914
1918	112,134
1919	170,875
1920	185,999
1921	160,357
1922	154,884
1923	277,877
1924	264,127
1925	268,118

No sugar was exported during the year. According to Treasury returns the value of the syrup was £19,672 which works out at a little less than 1/6 per gallon.

PROGRESS IN MINOR INDUSTRIES.

Indian Corn (Maize).

St. Vincent is perhaps the only West Indian island that possesses what may be termed a well thought out "corn policy". The fact that the Government possesses kiln driers and moth proof bins gives to the industry a stability that is lacking in many other places. Planters who grow corn do so with a knowledge that they will get a fair and square business deal when they dispose of it. Corn is purchased by Government on the co-operative system ; it is subsequently shelled, dried and stored. That storage is necessary is caused by the fact that during certain months of the year the West Indian markets are almost glutted with this commodity, and quantities must be absorbed by consumption before profitable prices for locally grown corn are procurable. The figures given in this Report are only for corn exported. Apart from this a considerable amount is annually converted into meal for human consumption. The conversion of most is done by means of a Kelly Duplex machine situated at the Government Ginnery but, in addition conversion is done by means of numerous hand grinders owned by private individuals. When considering our local corn as a food it should not be forgotten that it is more nutritious than the imported article. This is due to the fact that it is a whole corn and not one from which the germ has been extracted. The germ itself possessing a high food value which is due to its fat content. Against this, however, can be placed the fact that it does not keep so long after grinding as imported corn ; it is apt to acquire a rancid flavour.

On the small holdings in St. Vincent and the Grenadines corn is grown and stored by allottees. It is surprising the amount of success that peasants attain in keeping corn for long periods of time free from insects and other pests. The procedure adopted is simple and sound, and possibly has been arrived at by years of hard experience. It merely consists in hanging cobs where they are subjected to the smoke of kitchen fires, and periodically giving to them a thorough sunning ; using, probably without being aware of it, a good insecticide and fungicide. Of course, only limited amounts of corn can be treated in this way.

In the following table figures are given for the exports of maize for the years 1916–25 :—

Year.	Export, bushels.
1916	1,652
1917	2,855
1918	3,037
1919	1,327
1920	2,428
1921	1,683
1922	581
1923	4,696
1924	2,766
1925	2,754

It will be seen that the amount of corn exported was up to the average, th was valued at £627.

Coco-nuts.

The coco-nut industry has been discussed at some length in past Reports th have emanated from this Department, and it is not proposed to comment at th juncture on it. The exports of copra for the year amounted to 661,309 lb. a was valued at £5,512. From these figures we see that approximately 295 to were exported, and this was valued at £19 per ton. This latter figure is in way high. In addition to the preceding 9,435 coco-nuts were exported.

The following table gives the exports of copra and coco-nuts since 1918 :-

Year.	Quantity.			Value.	
1918	Coco-nuts	5,723		22	£211
	Copra	7,104	lb.	189	
1919	Coco-nuts	7,000		47	£203
	Copra	9,319	lb.	156	
1920	Coco-nuts	16,448		144	£574
	Copra	22,644	lb.	430	
1921	Coco-nuts	13,339		82	£1,431
	Copra	89,005	lb.	1,353	
1922	Coco-nuts	770		£6. 4s. 2d.	£2,440 17.
	Copra	223,593		£2,434. 13s. 10d.	
1923	Copra	356,626	lb.		£2,959
1924	Coco-nuts	4,841		22	£5,452
	Copra	645,973	lb.	5,430	
1925	Coco-nuts	9,435		20	£5,532
	Copra	661,309	lb.	5,512	

If the above is critically examined it will be seen that there is a decided l in the quantity of copra sent out during 1925. For instance the exports of th commodity for 1924 were double those of 1923, while those of 1925 were on slightly greater than those of 1924. This is somewhat difficult to account f but largely increased exports of copra may be expected with a fair amount confidence in the coming year.

Ground-nuts.

The quantity of ground-nuts exported amounted to 273,039 lb. or in ter of bushels, 5,251. According to Customs returns these were valued at £3,79 or at the rate of 3·3d per lb.

The following gives the quantity of this commodity exported for ten years :

Year.	Exports, bushels.
1916	14,641
1917	14,424
1918	13,489
1919	11,329
1920	12,017
1921	5,584
1922	8,336
1923	8,863
1924	6,195
1925	5,251

Peas and Beans.

On the whole there was a slight decrease in the quantity of peas and beans ported during the year. The amount being 90,476 lb. or 1,548 bushels valued £866, *i.e.*, 2·3d. per lb.

The following gives the exports for the past decade :—

Year.	Exports, Bushels.	Value £
1916	6,418	2,070
1917	4,551	1,492
1918	3,361	1,666
1919	2,704	1,392
1920	1,581	952
1921	2,637	1,472
1922	2,731	1,640
1923	2,482	1,595
1924	1,744	984
1925	1,548	866

Miscellaneous.

The value of miscellaneous agricultural products exported, that are not viously dealt with, is as follows :—Vegetables £2,581, nutmegs £492, fruit 71, firewood £181, hides and skins £146, miscellaneous spices £100, cotton d £53, wool £26, logwood £4, lime juice £3.

Rum Industry.

No rum was exported, 26,797 proof gallons were distilled. This was a con- erable increase on last year's production, and valued at 3/- per gallon was worth ,019.

Oils.

The quantity of oil exported during the year was small, only 281 gallons ued at £39 were sent out.

AGRICULTURAL INSTRUCTION, EDUCATION AND CO-OPERATIO

The number of Agricultural Credit Societies in the Colony is twenty-o some of which, however, did not function during the year. A report on these included in this publication.

Agricultural Officers, as in previous years, paid frequent visits to estates a peasant holdings throughout the Colony.

One leaflet, Manurial Sugar-cane Experiments, was written by the Agric tural Superintendent, and one small pamphlet, Spinning Tests of St. Vincent Island Cotton, was written by the Research Officer.

British Empire Exhibition.

It is proposed, in the near future, to write a separate report on the above

Science Teaching.

This work is done by the Science Master attached to the Grammar School.

Details of Staff and Administration.

The sum of £1,662 was voted during the year for the upkeep of the Agric tural Department.

The following gives details of expenditure :—

	£	s.
Salary, horse and travelling allowance, Agricultural Superintendent	450	0
Salaries, Foremen, Botanic and Experiment Stations, Cotton Inspector, Officer in Training and Clerical Assistant, and horse and travelling allowances, Agricultural Instructor and Cotton Inspector ...	498	5
Upkeep Botanic and Experiment Stations, (labour, tools, manures, etc.)	574	15
Destruction of food plants of the Cotton Stainer ...	16	1
Salary, horse and travelling allowance, Government Vaccinating Officer	30	0
Other charges Government Veterinary Department	16	1
Special Cotton Investigations	14	19
Total	£1,596	18

Receipts.

The receipts for sale of plants and produce at the Botanic and Experim Stations amounted to £94 13s. 2d. The total receipts were £125 4s. 6d.

STAFF CHANGES, etc.

No staff changes took place during the year. Miss D. Wall, Clerical Assista was away on vacation leave from August 23rd to September 24th. Miss Simons acted for her.

RESPONDENCE AND DISTRIBUTION OF INFORMATION OF AGRICULTURAL MATTERS.

The number of minute papers dealt with during the year amounted to 145 the number of letters despatched was 967.

A total of 324 copies of the Annual Report for 1924 were distributed, and miscellaneous leaflets, etc., were sent out.

ADDITIONS TO LIBRARY.

Apart from publications received from West Indian Departments of Agricul- the following were received :—

Records, Brooklyn Botanic Gardens ; Seasonable Hints, Department of iculture, Ottawa ; Kew Bulletin ; The Tropical Agriculturist ; The Cotton ette ; Annual Report, Department of Agriculture, Mauritius ; Review of lied Mycology ; Journal of Agricultural Research ; The Philippine Agricultural iew ; Experiment Station Record ; Bulletin of Imperial Institute ; Journal of Board of Agriculture, British Guiana ; Review of Applied Entomology ; Bulletin, artment of Agriculture, Mauritius ; Extension Notes, Porto Rico Department griculture ; Journal of Genetics ; Bulletin, Department of Agriculture, Ceylon ; Empire Cotton Growing Review ; Pamphlets, Agricultural Experiment Sta-, Cornell University ; Report, Agricultural Department, Nigeria ; Report, icultural Department, Gold Coast ; Report on the Lands and Forest Depart-t, Sierra Leone ; Report, Agricultural Department, Gambia ; Annual Report, est Department, British Honduras ; Notes on Royal Botanic Gardens, Edin-gh ; The Gardens Bulletin, Strait Settlements ; Tropical Life ; Report of the ister of Agriculture, South Australia ; Report, Rothamsted Experimental ion ; Report, British Cotton Growing Association.

METEOROLOGICAL OBSERVATIONS.

The average rainfall at the Botanic Gardens for the past 32 years was 102·12 nes. Therefore, the rainfall experienced during 1925 was 14·67 inches below average.

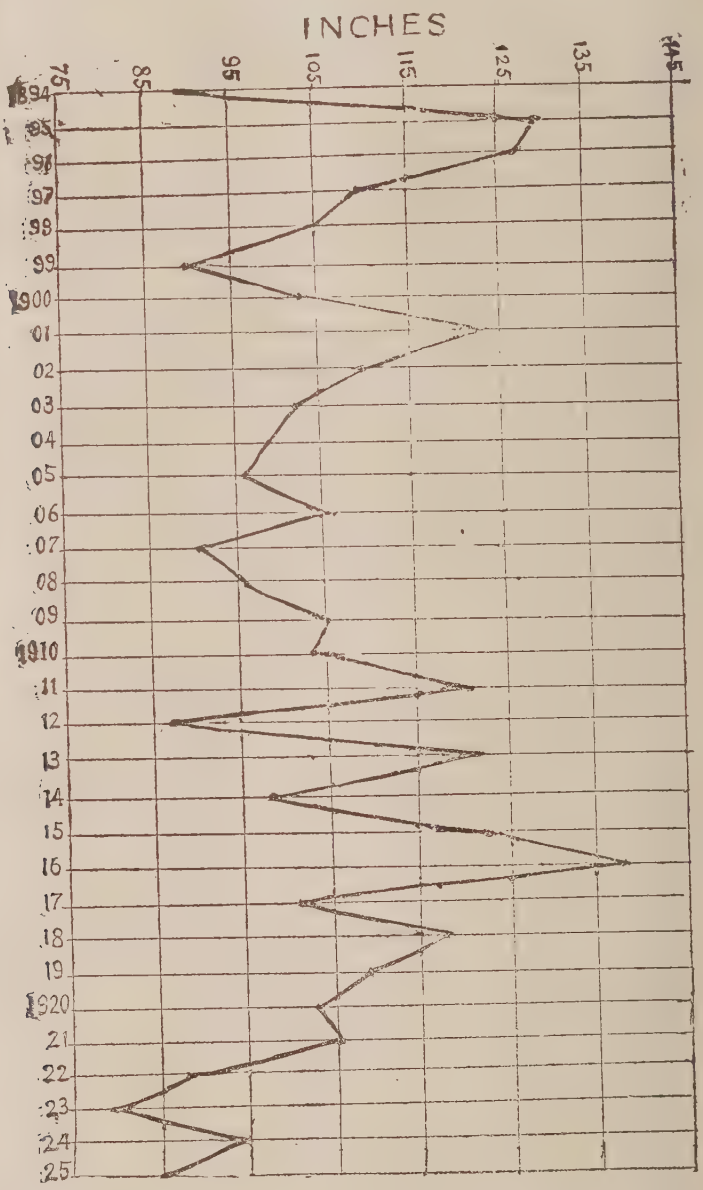
The following gives the rainfall recorded at the Botanic Gardens and the Ex-ment Station during the period under report :—

Month.	Botanic Gardens.	Experiment Station.
January	7·45	7·45
February	2·37	4·30
March	2·98	3·81
April	1·92	1·36
May	5·37	4·09
June	6·03	7·19
July	8·87	9·74
August	17·00	17·58
September	11·67	10·04
October	10·25	11·66
November	8·73	8·71
December	4·81	5·07
Total	87·45	90·98

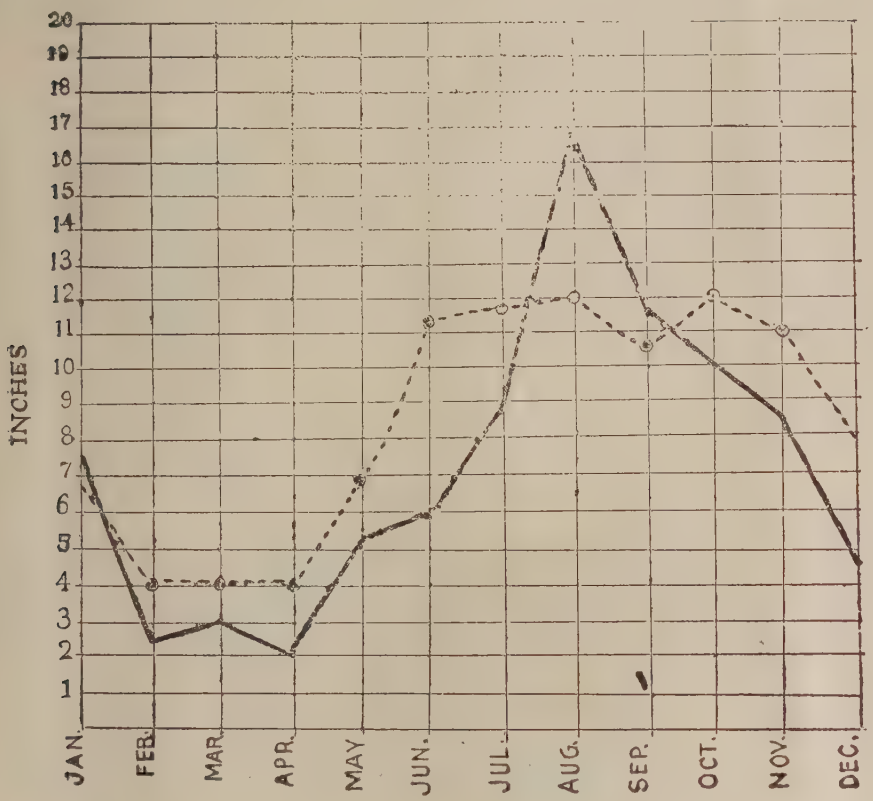
At the Botanic Gardens rain was recorded on 267 days, and the heaviest fall recorded on August 8th when 3·05 inches were measured. Rain fell at the

Experiment Station on 295 days and the heaviest was recorded on November 1
when 3·55 inches fell.

CHART 1.—ANNUAL RAINFALL, BOTANIC GARDENS, ST. VINCENT, 1894–1925.



ART 2.—Monthly Rainfall, Botanic Gardens, St. Vincent, 1894–1925.



Black line represents monthly rainfall, 1925.
Dotted line represents mean monthly rainfall, 1894–1925.

The following gives the mean temperature, average degree humidity, and the ean barometric pressure in inches for each month during the year :—

Meteorological Observations, Experiment Station, for 1925.

Month.	Mean Temperature F°.	Average degree of humidity. Saturation 100.	Mean barometric pressure in inches.
January ..	76·6	73·4	30·100
February ..	76·5	71·9	30·071
March ..	76·7	72·9	30·043
April ..	80·0	69·5	30·044
May ..	80·5	68·7	30·067
June ..	80·3	74·1	30·070
July ..	80·7	74·5	30·071
August ..	80·6	75·0	30·044
September ..	81·6	74·3	30·013
October ..	80·7	73·6	30.006
November ..	80·2	73·2	30·020
December ..	79·7	70·9	30·050
Mean ..	79·5	72·6	

Atmospheric Pressure.

The reading of the Barometer, corrected for instrumental error, elevation a temperature, ranged from 30·196 on January 26th to 29·904 inches on Octob 13th and 30th.

Official Visitors.

Professor B. Farmer, F.R.S., and Mr. L. G. Kilby visited the island in Fe ruary. Their visit was in connection with the removal of the cotton research wo from St. Vincent to Trinidad. Professor Boyd, Sugar Technologist, Imper College of Tropical Agriculture, paid a visit to St. Vincent which last from April 5th to April 12th. He visited the island with the view of investigati matters pertaining to syrup manufacture. In December eleven students from t Imperial College of Tropical Agriculture, accompanied by Professor C. Y. Shephar visited the island for the purpose of studying the cotton cultivation of St. Vince

VETERINARY REPORT.

The post of Veterinary Surgeon was not filled during the year as the necessi for doing so did not arise.

Microscopic examination of ears of animals for anthrax was performed by t Honourable the Colonial Surgeon at the Colonial Hospital.

The vaccination of stock for export was performed by the Governme Vaccinating Officer. The individual who holds this appointment also holds th of Cotton Inspector.

The total sum of money expended on veterinary work was £69 17s. 6d. ma up as follows :—

			£	s.	d.
Salary and Travelling Allowance, Government Vaccinating Officer	—	—	30	0	0
Burial of Carcasses	—	—	39	17	6
Total	—	—	69	17	6

Anthrax.

No cases of anthrax have occurred in St. Vincent since the year 1914.

Vaccination.

Artificial immunization has been carried out on animals intended for expo to certain places ; only two were so treated during the year. Certificates we issued for the export to Barbados of 2,086 hides and skins.

The following gives the exports of animals for which no certificates we given :—

Table A.

Class of Animal.	Number.	Value, £
Sheep ..	490	241
Goats ..	1,462	605
Pigs ..	1,191	1,201
Total ..	3,143	2,047

Table B.

Showing kind, number and value of stock for which Veterinary certificates granted, also the Colonies to which the animals were exported.

ss of Animals.	Barbados.		Trinidad.		Grenada.		St. Lucia.		Total.	
	No.	Value. £	No.	Value. £	No.	Value. £	No.	Value. £	No.	Value. £
..	73	667	12	56	23	112	11	55	119	890
.	2	198	—	—	2	50	—	—	4	158
..	95	284	5	18	—	—	2	5	102	307
..	1	30	1	20	-	—	—	—	2	50
..	32	26	—	—	--	—	—	—	32	26
..	8	21	—	—	2	2	—	—	10	23
otal ..	211	1,136	18	94	27	164	13	60	269	1,454

Imports.

Sixteen animals valued at £183 were imported during the year. These were reeding purposes.

Table C.

Class of Animal.	Number.	Value. £
Cattle ...	6	166
Sheep ...	6	13
Pigs ...	4	4
Total ..	16	184

Table D.

Showing deaths of animals in districts from natural causes.

District.	Cattle.	Horses.	Asses.	Sheep.	Goats.	Pigs.	Total.
stown ...	24	—	2	1	12	5	44
qua ...	7	—	—	—	—	—	7
potamia ...	11	1	4	1	—	—	17
Total ...	42	1	6	2	12	5	68

Table E.

Showing deaths of animals in each month of the year ended December 31st,

Month.	Cattle.	Horses.	Asses.	Sheep.	Goats.	Pigs.	T
January ...	7	—	—	1	1	—	
February ...	6	—	2	—	1	2	
March ...	3	—	—	—	—	—	
April ...	3	—	2	—	1	—	
May ...	3	—	—	—	2	1	
June ...	1	—	—	—	1	—	
July ...	2	—	—	—	—	1	
August ...	2	1	2	—	1	—	
September ...	4	—	—	—	—	—	
October ...	1	—	—	1	2	—	
November ...	7	—	—	—	—	1	
December ...	3	—	—	—	3	—	
Total ...	42	1	6	2	12	5	

Report on the Agricultural Credit Societies for the Year 1925.

This is the fourteenth report on these Societies submitted since their incep-
n. All loans contracted by Societies during 1924 were promptly repaid in the
r 1925. The amount of money loaned during the year under report was
htly greater than during the previous one. It will be observed that several
he Societies are not functioning.

It will be seen that two more Societies completed repayments of loans con-
ted a considerable time ago. These are Stubbs and Barrouallie. The members
Lowmans and Spring Village Societies made little or no effort during the year
neet their obligations, although it may be said that, as regards Lowmans,
tain sums of money have been paid since the end of 1925. Union Island
iety did make some attempt towards repayment but it was not of a very deter-
ned nature.

The loans outstanding, other than those contracted in 1925, amount to
30. 18. 1, a position somewhat better than that obtaining at the end of 1924.
might be reiterated that this sum of money cannot be regarded as a bad debt, a
ge proportion being recoverable.

Below is given a short account of the transactions of each Society with the
onial Bank and other Institutions from which these Societies borrowed money.
e membership of each as appearing in the records of the Registrar's Office
given.

Georgetown. During 1924 this Society borrowed the sum of £400. £300
this amount was obtained from the Colonial Bank and £100 from a private in-
idual. Both loans were repaid when they fell due. In June and August 1925,
s Society, from the same sources as previously stated, contracted a loan for £100
d £300. This Society has a membership of 92.

Union. In June 1924 this Society obtained a loan of £215 from the
lonial Bank. This was promptly repaid. A further loan was contracted in
25 for the sum of £250. This Society has a membership of 53.

Chateaubelair. Since a loan of £335, contracted in 1922 and repaid in 1924,
s Society has not functioned. It has a membership of 29.

Troumaca. This Society contracted a loan of £100 from a Provident Society
July 1924. This was repaid in 1925, and a further loan for the same amount
s obtained in the same year. 57 persons belong to this Society.

Lowmans. During the years 1921 and 1922 this Society obtained loans for
25. At the beginning of 1925 it owed the Bank £62. 13. 9 and no attempt
s made to pay. In fact at the end of the year the Society owed the Bank
ghtly more than it did at the beginning. Members of this Society have been
dividually and collectively interviewed and no notice has been taken of advice
ven. Their attitude during the past two years has been one of what may
termed "masterly inactivity". Drastic action will have to be taken with this
ciety and if any members are hurt in the process, they will not deserve any
mpathy. There are 61 persons attached to this Society.

Stubbs. At the beginning of the year there was a small unpaid balance of
2. 15. 6½, that this Society owed to the Colonial Bank on a debt of £115 ob-
ined in 1921. During the year this was wiped out. This Society has a
embership of 89.

Spring Village. This Society has made little or no attempt during the year
pay the balance of the debt of £220 contracted in 1921. At the end of the
ar the balance unpaid amounted to £108. 9. 0. The remarks made in
nnection with Lowmans Society are equally applicable to this. There are 52
embers attached to this Society.

Clare Valley, Questelles. The loan of £250 contracted by this Society in
une 1924 was promptly repaid in 1925. In the latter mentioned year another

loan of the same amount was contracted. This Society is functioning well doing useful work. It has a membership of some 50 individuals.

Barrouallie. At the end of the year under report this Society owed Colonial Bank £16. 19. 3, at the end of the year the debt was £15. 19. 4, wh clearly indicates that little or no effort had been made to square matters. amount in question is the unpaid balance of a loan of £202 obtained in 19 This Society has a membership of 47.

Orange Grove. A loan of £230 obtained from the Colonial Bank by t Society in July 1924 was promptly repaid in the year under report. A furt loan of £300 was contracted in August 1925. There are 47 members attache this Society.

Union Island. In December 1921 a loan for £400 was obtained from Colonial Bank. At the end of December 1924 the amount repaid was £288. 3. leaving a balance of £171. 17. 0, on December, 1925. The amount outstand was £133. 7. 6. Therefore, from these figures, we see that the sum of £38. 9 was paid towards wiping off the debt during the past twelve months. T amount was decidedly small, but it does indicate that some attempt is being m to meet obligations. The membership of this Society is 100.

Bequia. On July 7th, 1924, this Society contracted a loan for £90. T was repaid promptly in 1925. In June of the latter mentioned year a furt loan for £130 was obtained. The Colonial Bank advanced the money on b occasions. There are 27 persons belonging to this Society.

Buccament, Biabou, Marriaqua, Calliaqua, Redemption, Layou, Harmo Hall, Belair-Gomea and Canouan, did not contract any loans during the ye These Societies are free of debt. The following gives the membership of eac 18, 82, 74, 56, 56, 45, 43, 67, 17.

TABLE 1.

STATEMENT OF TRANSACTIONS.

Name of Society.	Date of Registration.	Total number of members at December 31, 1925.	Loans in 1925. £	Total loans sin registration t December 31, 19 £
Georgetown Agric. Credit Society...	24. 11. 13.	82	400	3,130
Union „ „ „ ...	24. 11. 13.	53	250	2,080
Chateaubelair „ „ „ ...	24. 11. 13.	29	—	1,250
Troumaca „ „ „ ...	24. 11. 13.	57	190	2,590
Lowmans „ „ „ ...	24. 11. 13.	61	—	1,775
Stubbs „ „ „ ...	24. 11. 13.	89	—	1,950
Spring Village „ „ „ ...	20. 5. 14.	52	—	1,180
Buccament „ „ „ ...	20. 5. 14.	18	—	1,215
Clare Valley–Questelles „ ...	8. 9. 14.	50	250	2,535
Barrouallie „ „ „ ...	11. 2. 15.	47	—	1,107
Biabou „ „ „ ...	31. 1. 16.	82	—	1,489
Marriaqua „ „ „ ...	16. 3. 16.	74	—	1,420
Calliaqua „ „ „ ...	5. 8. 16.	56	—	1,800
Belair–Gomea „ „ „ ...	5. 8. 16.	67	—	2,020
Orange Grove „ „ „ ...	23. 3. 17.	47	240	2,260
Redemption „ „ „ ...	23. 5. 17.	56	—	1,175
Union Island „ „ „ ...	23. 5. 17.	100	—	2,308
Bequia „ „ „ ...	23. 5. 17.	27	130	1,048
Layou „ „ „ ...	18. 6. 18.	45	—	945
Harmony Hall „ „ „ ...	2. 7. 17.	43	—	385
Canouan „ „ „ ...	9. 8. 17.	17	—	80
		1,156	1,460	33,742

TABLE 2.

COMPARATIVE STATEMENT SHOWING HOW LOANS WERE OBTAINED.

Period.	From where obtained.	Amount, £.	Rate of Interest, per cent.	Total, £.
13–14	Governor in Council	430	6	430
14–15	" " "	100	6	
	Colonial Bank	905	8	
	Provident Society	40	6	
	Private Individual	25	10	1,070
15–16	Governor in Council	50	6	
	Colonial Bank	800	8	
	Provident Society	50	6	900
16–17	Colonial Bank	2,555	8	
	Provident Society	150	6	2,705
17–18	Colonial Bank	3,320	8	
	Provident Society	150	6	
	Temperance Society	80	6	
	Private Individual	100	6	3,650
18–19	Colonial Bank	4,201	8	
	Provident Society	160	6	
	Temperance Society	80	6	4,441
19	Colonial Bank	3,774	8	
	Private Individual	275	6	
	Provident Society	175	6	4,224
20	Colonial Bank	4,451	7	
	Provident Society	190	6	
	Private Individual	165	6	
	Temperance Society	80	6	4,886
21	Colonial Bank	4,614	7	
	Provident Society	215	6	
	Temperance Society	80	6	
	Private Individual	100	7	5,009
22	Colonial Bank	1,682	7	
	Provident Society	115	6	
	Temperance Society	85	6	
	Private Individual	100	8	1,982
23	Colonial Bank	1,040	7	
	Private Individual	100	8	
	Provident Society	100	6	
	Temperance Society	100	6	1,340
24	Colonial Bank	1,091	7	
	Provident Society	100	6	
	Temperance Society	90	6	
	Private Individual	100	8	1,381
25	Colonial Bank	1,170	7	
	Provident Society	100	6	
	Temperance Society	90	6	
	Private Individual	100	7	1,460

TABLE 3.

SUMMARY.

The loans repaid during the year amounted to —	£ 1,381	0	0
The totals loans obtained since the Societies were registered to December 31, 1925 — —	35,122	0	0
Interest on loans paid during 1925 — —	100	7	9½
Total interest paid from date of establishment to December 31, 1925 — — —	2,373	0	9½
Loans outstanding other than those contracted in 1925	330	18	1

Committee of Management, Government Cotton Ginnery.

T. P. Jackson, Esquire, Agricultural Superintendent, Chairman (Acting).
Hon. J. H. Otway, Acting Colonial Treasurer.
„ D. Hadley,
„ W. M. Grant,
H. P. Hazell, Esquire,
H. L. Hayward, „
E. M. Beach, „
V. D. Archer, Esquire, Secretary.

Staff of Government Cotton Ginnery.

C. H. Findlay, Manager.
A. W. Dowers, Overseer.
C. E. Best, Chief Mechanic.
C. Bute, Cotton Purchaser.
B. R. James, Pay Officer.
Miss E. Cropper, Clerical Assistant.

REPORT ON THE WORKING OF THE GOVERNMENT COTTON GINNERY FOR THE YEAR 1925-26.

The following section was prepared by the Manager of the Governme Cotton Ginnery :—

Ginning Operations.

Ginning for the 1925-26 season was commenced on 2nd December, 19 and continued fairly regularly until the end of March, 1926, by which time t greater portion of the crop had been ginned. Thereafter, it was rather irregul until 6th May when the last cotton for the season was ginned. The total quanti of Sea Island seed cotton received was 1,506,887 lb., and of this 1,337,943 lb. we white, and 168,944 lb. stained. The quantity handled during the previous ye was 1,129,822 lb., so that this season showed an excess of 377,065 lb.

The lint obtained from the white seed cotton amounted to 361,775 lb., a that from the stained 44,048 lb., making a total of 405,823 lb. an increase 102,431 lb. over the 1924-25 total of 303,392 lb.

The Kingstown Cotton Ginnery passed from the St. Vincent Electric Lig Company to a combine of Planters at the end of November, 1925, and among the present owners are two gentlemen who were formerly two of the most im portant clients of the Government Ginnery; some cotton was, however, receive from one of them as arrangements could not be made for ginning at the Kingstow Ginnery early in the season. Another large cotton grower who ginned his cott prior to the coming into force of the Regulations made under the Cotton Protectio Ordinance, 1924, continued to gin at this ginnery, as did a few persons wh formerly ginned at the Kingstown Ginnery, consequently the full proportion the increased yield obtained from the larger area under cotton cultivation was re flected in increased ginning.

Disposal of Cotton Seed.

With the exception of 5,365 lb. delivered to two estates, all the seed from t Colony's crop of stained cotton was disintegrated at this ginnery and distribute for use as manure. The total quantity treated was 175,988 lb., of which 55,845 l came from the Kingstown Ginnery and 3,114 lb. from the ginnery at Cane Garde Oil was expressed from all the seed obtained from white cotton, except the quanti required for planting purposes.

Oil Expressing and Refining.

The total quantity of seed from which oil was expressed amounted 1,299,000 lb., of which 360,024 lb. came from the Kingstown Ginnery an 20,242 lb. from the ginnery at Cane Garden. The quantity from which oil w expressed during the previous season was 904,903 lb. The 1925-26 season ther fore showed an increase of 394,097 lb.

It was calculated that the crude oil obtained from the large quantity of se expressed would, after refining, be much more than could be disposed of locally, a it was therefore decided to export the estimated surplus. 5,180 gallons of cru oil were accordingly exported to Barbados. The remainder of the season's pr duction was refined and yielded 8,000 gallons of oil, of which 5,300 gallons ha been sold up to the time of writing. It is estimated that the quantity remaini will be sufficient to meet local requirements until oil from the next crop is put the market in December next.

3,000 bars of soap weighing about 5,500 lb. were manufactured, of whi 2,300 bars have been sold. Sales of this article were rather slow for the first months of the season but improved considerably during the last three.

Purchase of Cotton on the Co-operative System.

The Ginnery continued to purchase cotton from peasants on the co-operative
m, and an advance of 10 cents per lb. was paid on white Sea Island seed
1 and $2\frac{1}{2}$ cents per lb. on stained. The quantity purchased amounted to
02 lb. of white, and 17,818 lb. of stained, making a total of 131,520 lb.
showed an increase of 59,575 lb. over total purchases for the previous year.
reason for the increase has already been put forward, another was a decrease
e nnmber of licensed dealers as compared with the previous year.
31,430 lb. of lint were obtained from the white seed cotton and 4,784 lb. from
tained. This gave 100 bales of lint, of which 87 were white and 13 stained;
ere exported. Account Sales have been received for 74 bales of white which
ed 2s. 6d per lb. The remaining 13 of white and 13 of stained are unsold at
me of writing.
A local valuation was placed on 7 bales of white lint from the 1924-25 crop
1 remained unsold in November, and a bonus of 150% was paid. On these,
ices of 6 cents per lb. for white seed cotton, and 2 cents per lb. for stained,
een paid. The smallness of the sums advanced was due to difficulty in
asting the price that would rule at the time of selling. These 7 bales, as well
from the 1923-24 crop, still remain unsold.

Purchase of Corn on the Co-operative System.

The advances paid on corn purchased on the co-operative system were at the
of $1.25 per 100 lb. for shelled and 88 cents per 100 lb. for cob corn, and
urchases totalled 100,850 lb. shelled and 36,138 lb. of cob, which gave 54
of kiln-dried corn—an increase of 18 tons over the previous year's total.
A large portion of the kiln-dried corn disposed of is usually sold to residents
e St. Vincent Grenadines, but during the year under review there was hardly
demand for it in those islands as the inhabitants had a full share in the large
produced by the Colony, which they sun-dried and stored, thus avoiding the
sity of purchasing. It was consequently found necessary to export 25 tons,
0 tons were crushed and sold locally for stock feed.
The price ruling for corn in the Barbados market, which on this occasion
he only one available for the disposal of surplus production, was not very
nerative, and therefore the financial result will be below that of the 1924-25
on which a bonus of 73% was paid. There are about three tons on hand.

Other Transactions.

61,253 lb. of corn were either ground into meal or crushed for stock feed.
quantity was more than three times that so treated during the previous year.
In addition to 121,461 lb. of corn purchased on the co-operative system,
3 lb. were kiln-dried, making a total of 130,979 lb.—an excess of 46,311 lb.
st season's figures which totalled 84,668 lb. No cob corn was shelled other
the 36,138 lb. mentioned previously.
Grain, &c., received, fumigated and stored in the moth-proof rooms of the
ery, apart from the corn purchased, totalled 21,913 lb. and consisted of
5 lb. peas, 6,658 lb. corn, 2,631 lb. cotton seed and 11,199 lb. cocoa. The
material so treated for the previous season was 6,937 lb.
12,134 lb. of cotton seed were selected and disinfected for planting. Of this
tity 5,367 lb. were from seed purchased by the Ginnery for sale to peasants,
emaining 6,767 lb. having been prepared for planters. 410 lb. were disin-
l only.

General.

Early in December last the Manager of the Kingstown Ginnery requested the
aging Committee to take over daily the cotton seed from their gins, as that
ery was not equipped to comply with the law as pertaining to the treatment

of such. The Committee eventually decided to comply with the request on condition that a *quid pro quo* be granted the Government Ginnery in the form of storage accommodation for bales of cotton, and this being agreed to, the seed was taken over daily. It was fumigated and stored with that obtained from cotton ginned at the Government Ginnery. In consequence, the storage capacity of this ginnery was taxed to its utmost, and it was only by expressing oil day and night and by prompt and frequent shipment of cotton between the months of January and April that the situation was controlled, and the exportation of cotton seed avoided, and the benefit of the local use of the cotton seed meal secured.

About 473 tons of meal were obtained by expression of prime seed, and a further 77 tons by disintegration, making a total of 550 tons. As, speaking generally, all cotton seed meal produced is used as a manure, it can be safely assumed that the crops now under cultivation in the Colony will receive the benefit of it.

Many estates do not possess storage accommodation for cotton seed meal as required by law. Consequently it often remains at the ginnery for protracted periods of time, or in other words until planters are in a position to apply it to crops. The result is that difficulty was experienced in finding storage space for the meal especially as the work of oil expressing had to be proceeded with at a rapid rate in order to comply with the Regulations of the Cotton Protection Ordinance, 1924. The Meal House built in 1924 with a capacity of about 200 tons was filled in April, which necessitated the buildings ordinarily used as seed houses to be utilised for storing meal. This was done as fast as meal was removed from them.

Extensive repairs were effected to the main building of the Ginnery, and the western side of the concrete foundation of the Meal House, which had shown signs of yielding under the strain of the previous crop, was heavily buttressed, while tie-rods of iron were inserted to strengthen the sides of the building. Certain minor repairs and works were carried out on other buildings. The work of painting the buildings is now being executed under the supervision of the Public Works Department.

The fire insurance policy on the buildings and machinery of the Ginnery which was held with the North British and Mercantile Insurance Company Limited, was allowed to lapse when the premium became due on 16th April, 1926, and a fresh policy was taken in the London Assurance Corporation. The buildings were also insured against hurricane with Lloyds' Agency, through the Crown Agents for the Colonies.

It was found more convient to fix the crop year of the Ginnery to commence on 1st October in each year, and end on 30th September of the succeeding year instead of allowing it to run from 1st November to 31st October as hitherto. His Honour the Administrator's sanction having been obtained, the change took effect from 1st October, 1925.

The following is a summary of transactions for the last two years :–

	1924-25.		1925-26.	
Seed Cotton received and ginned	1,129,822	lb.	1,506,887	lb.
Cotton Seed expresseed	964,903	,,	1,299,000	,,
,, ,, disintegrated	87,788	,,	175,988	,,
Seed Cotton purchased	71,945	,,	131,520	,,
Corn purchased	85,744	,,	127,954	,,
Corn klin-dried	84,668	,,	130,979	,,
Corn ground into meal or stock feed	20,149	,,	61,253	,,
Cob Corn shelled	33,266	,,	36,138	,,
Cotton Seed selected and disinfected for planting	13,187	,,	12,134	,,
Cotton Seed disinfected only	—		410	,,
Grain, &c., fumigated and stored	6,937	,,	21,913	,,
Cotton Seed Oil refined	6,890	galls.	8,000	galls.
Soap Manfactured	3,000	bars	3,000	bars
Cotton Seed meal delivered	435	tons	550	tons